POPULAR PHOTOGRAPHY

WINNERS
YOUR BEST PHOTOGRAPHY
18TH ANNUAL READERS' CONTEST P.55

HOW TO MAKE GREAT PICTURES

Camera of the Year

SONY NEX-7

A Compact So Awesome, You Might Dump Your DSLR P.66

TWILIGHT
Nature Shooting Tips for the Edge of Night P.70

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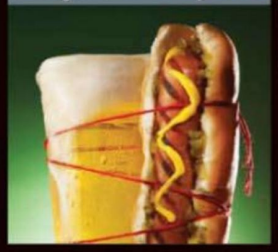

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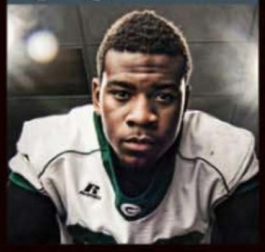

Select Your Focus P.50

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The awards are coming into focus.

It's an honor that *DPReview.com*, *American Photo*, *Popular Photography* and *TIME*® *Magazine's* 50 Best Inventions of 2010 all praised our cameras this year. The αNEX-5, the world's smallest and lightest interchangeable lens digital camera* and the α55, which shoots up to 10 frames per second and full HD video while maintaining continuous auto focus, have no problem letting their stunning images speak for themselves. But, it is nice to have someone else do the talking.

"My verdict: It's the best travel camera I've ever used."

-Jefferson Graham, USA Today, Aug. 18, 2010

Editor's Choice Award American Photo

αNEX - 5

Best of What's New 2010

Popular Science

2010 Breakthrough Product Award

Popular Mechanics

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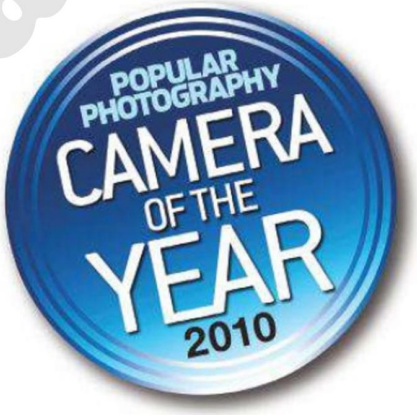
"It's thrilling to see Sony finding its mojo again, introducing radical new design ideas that, in this case, really advance the state of the art."

-David Pogue, The New York Times, Sept. 22, 2010



Camera of the Year Popular Photography

α55

dpreview.com GOLD AWARD

Gold Award

DPReview.com

TIME

50 Best Inventions of 2010

TIME® Magazine

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YOU LEARN TO SPEAK WITHOUT WORDS.

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PICK YOUR CAMERA UP. PUT IT DOWN.

WIPE THE TEARS AWAY.

PICK YOUR CAMERA BACK UP AGAIN.

JUST TO GET ONE SHOT.

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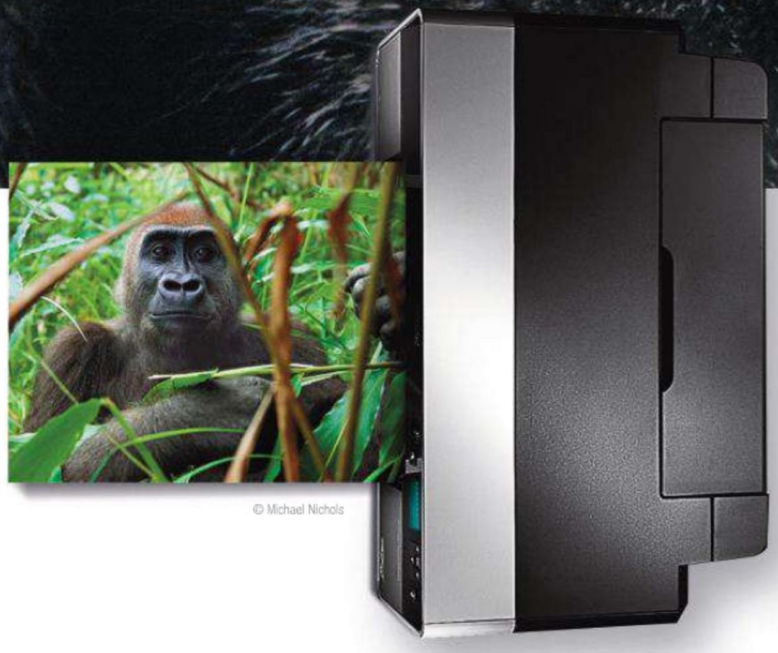

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Meet our 2011 Camera of the Year: Sony's groundbreaking ILC, the NEX-7. With the best viewfinder outside of a DSLR, and a huge 24.3MP sensor capable of breathtaking picture quality, to know it is to praise it.
By Dan Richards

70 THE EDGE OF LIGHT Low-light landscapes and nature scenes make challenging subjects, but by following these strategies and techniques, you could be rewarded with the most evocative and haunting images Mother Nature offers. *By Ian Plant*

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Happy New Year

I have a feeling the camera industry will be glad to see the end of 2011. Between natural disasters and man-made ones, it was a terrible year.

Last spring, the earthquake and tsunami that struck Japan shuttered several camera, lens, and printer manufacturing plants, including a Nikon DSLR facility in Sendai, near the epicenter. Come autumn, the industry was damaged yet again by floods that devastated Thailand, where not just camera makers but all kinds of other electronics companies have factories. Canon, Nikon, and Sony all closed plants making DSLRs, lenses, and interchangeable-lens compacts.

Although camera and lens makers have shifted production to other factories, these twin disasters (plus a soaring yen) are walloping the bottom line. Consumers share the pain, too, in the form of higher prices and harder-to-find goods. (Our 2011 Camera of the Year, Sony's NEX-7, is among those now in very short supply.)

And the losses of these plants affect not just products in current lineups but models that were to have debuted in 2011. Quite a few executives have told me that they have postponed product launch dates until 2012.

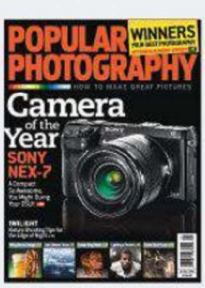
The industry also experienced some business upheavals whose effects on the photo market is harder to discern—for now. In July, Ricoh bought Pentax's camera business from Hoya, bringing two brands with distinct identities together in one company. Ricoh makes advanced compacts with unique designs that appeal to a niche audience; Pentax specializes in rugged, well-built DSLRs and compacts prized by value shoppers (its pricey new Q, tested on page 77, notwithstanding).

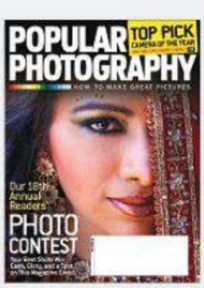
By fall, Eastman Kodak's longstanding challenges—the shrinking of the film, photographic paper, and related chemicals businesses—threatened to send this once-glorious empire into bankruptcy. (Readers, I can hear your howls of pain.) Kodak is raising cash by selling assets—including its digital sensor business.

Then came a boardroom drama at Olympus ready-made for Hollywood. After CEO Michael C. Woodford was fired in October in what was intitially described as a strategy dispute with the board, he alleged that more than $1.5 billion had been siphoned off through offshore funds. As we went to press in mid-November, shares had plummeted more than 80 percent, decades of hidden losses had come to light, and Olympus faced regulatory and criminal probes in Japan and the U.S. Again, what this means for the company's photographic business (which does not seem to have played any role in the scandal) is impossible to say, but the turmoil undoubtedly distracts management and reduces capital for growth.

One thing is certain: When the industry gathers in Las Vegas in early January for the annual International CES consumer technology expo and the concurrent photo trade show, PMA, all eyes will turn to the future.

Miriam Leuchter





NEWSSTAND Meet our 2011 Camera of the Year. On page 66, read how the Sony NEX-7 both refined *and* redefined photography. Photo by Satoshi.

SUBSCRIBER Tamiz U. Rezvi's bridal portrait won the first-ever Readers' Choice prize in our annual photo contest. See the other winners on page 55.

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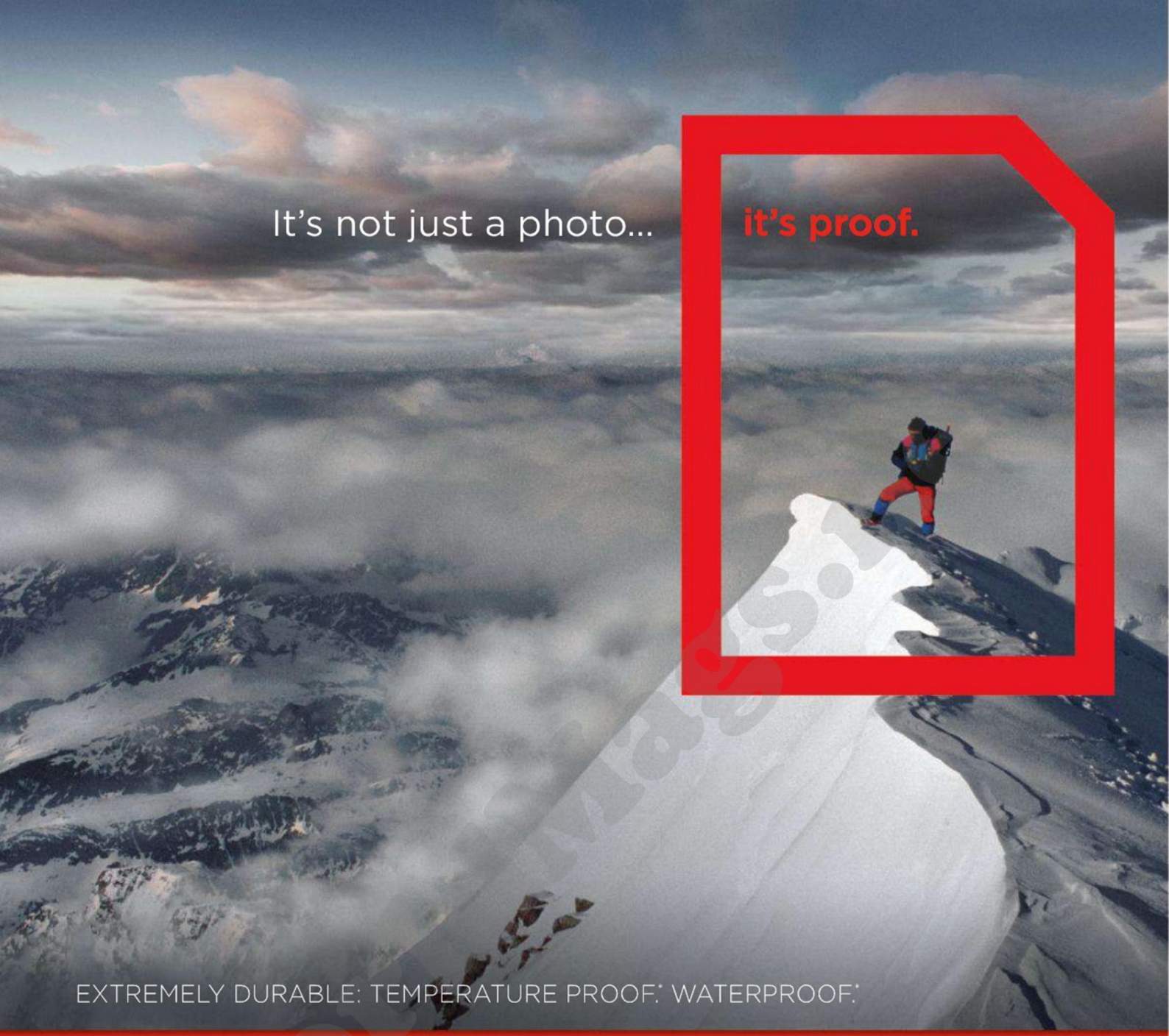

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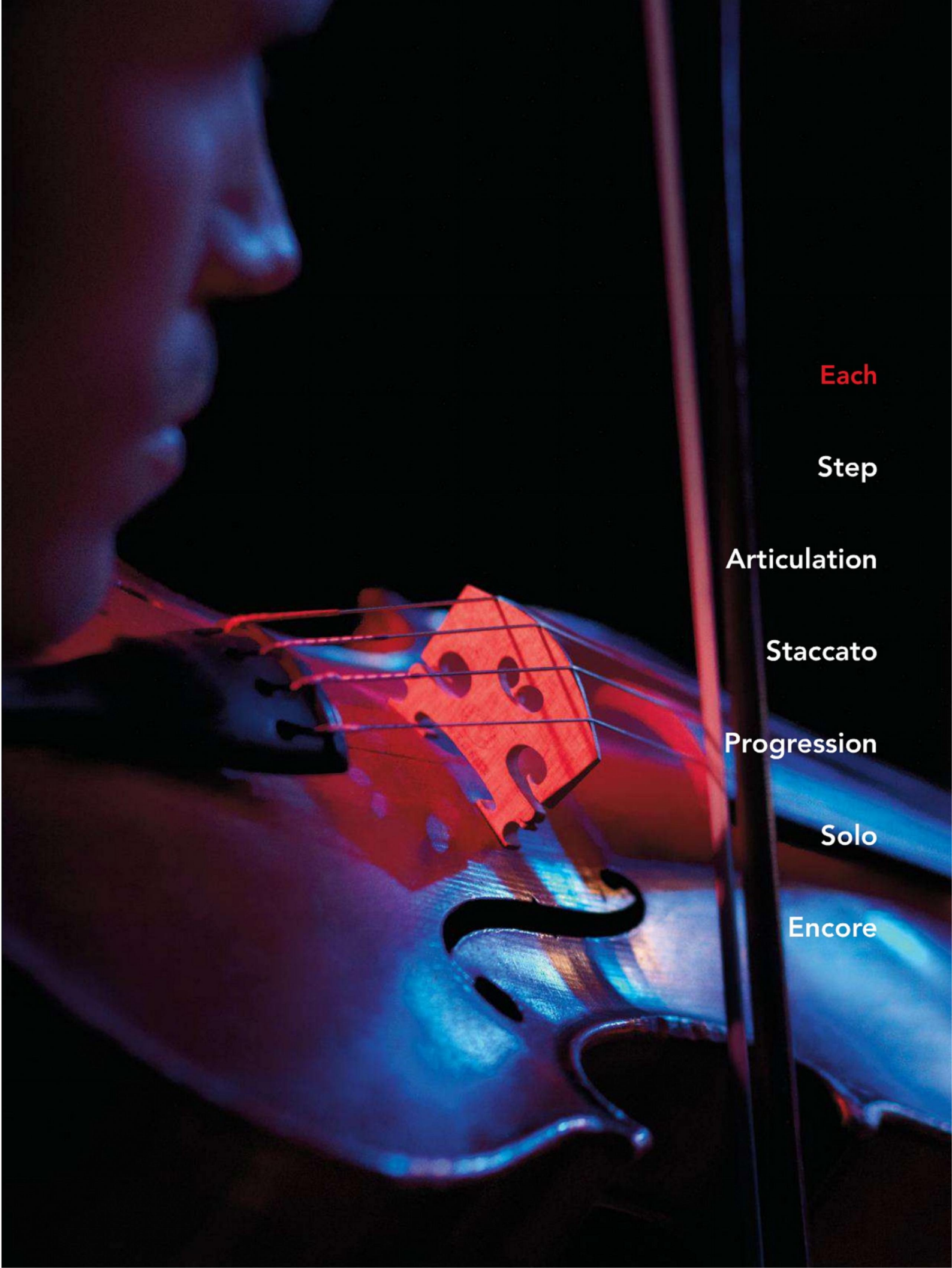
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DAN BRACAGLIA

LITTLE CAMERA, BIG RESOLUTION

Dan Bracaglia, our assistant Web editor, balanced the Sony NEX-7—outfitted with a 24mm f/1.8 Zeiss lens—on a railing to capture New York City's Times Square. His exposure: 2 seconds at f/13, ISO 100. The HDR-like look is a result of Highlight Recovery and a bump up in contrast made using Adobe Lightroom 3; the image is also slightly cropped. Find out why the NEX-7 is our Camera of the Year on page 66.

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NEXT

THE HOTTEST NEW STUFF AND THE TECHNOLOGY TRENDS BEHIND IT

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WE WANT THIS

X-CELLENT

The new GX1 should please serious shooters

FANS OF Panasonic's GF line of little rangefinder-styled Micro Four Thirds cameras may have shed some tears when they saw that last summer's GF3 couldn't accept an electronic viewfinder and used menu-based controls instead of buttons.

But thanks to the new DMC-GX1, Lumix lovers can now dry their eyes. The GX1 has a 16MP LiveMOS sensor similar to the one found in Panasonic's G3 and GH2, as well as a 3-inch touchscreen LCD and a hot-shoe and accessory port for flashes, EVF, or any other add-on Panasonic might develop. When we saw a preproduction model, we were glad to see the mode dial and controls we liked in the GF2, and loved the feel of the rubberized grip.

Videographers will appreciate that the GX1 can capture HD footage at up to 1920x1080i60—and that it will be available with the new 14–42mm X-series power zoom lens.

SAM KAPLAN

PANASONIC LUMIX DMC-GX1

- 16MP LiveMOS sensor
- 3-inch touch-screen LCD
- Hot-shoe and accessory port
- 1920x1080i60 HD video
- $700, street, body only
- $800 with 14–42mm f/3.5–5.6 kit lens
- $950 with 14–42mm f/3.5–5.6 X-series lens

HEAD CAM

A sophisticated, go-anywhere sports camera

GOPRO'S HD Hero2 Professional hands-free camera may look similar to its predecessor, but this new version packs serious imaging upgrades into its little box of a body. The camera is built around a new compact-size 11MP sensor—up from 5MP on the original HD Hero—which is complemented by a doubly fast imaging processor. As a result, the HD Hero2 can now pull down 10 full-res still images in 1 second before the cache is full.

GoPro HD Hero2 Professional
$300, estimated street
www.gopro.com

The Hero2 is available in three editions: Outdoor, Motorsports, and Surf, each with the appropriate mounting system.

For video, 1920x1080p30 is still as much resolution as you can get, but the footage now comes with an improved bit rate and low-light performance, something that cameras like this one tend to struggle with. Plus, if you don't mind shooting in 480p, you can capture at up to 120 fps, perfect for showing off your shredding in slow motion.

The Hero2 will be compatible with Wi-Fi BacPac + Wi-Fi Remote add-ons (out in February 2012), which will allow you to send remote commands to up to 50 GoPro cameras and wirelessly stream footage to a computer, tablet, or even the Web. With that kind of versatility, simply calling this little device a helmet cam is almost insulting.

SPEEDY MAKEOVER

Retouching software that's truly simple to use

WHETHER YOU realize it or not, you have probably used ArcSoft's software or technology. The company makes many of the programs that ship with PCs, and it also supplies technology such as face detection and panorama stitching to camera manufacturers (though it won't disclose which).

Now ArcSoft is leveraging some of that tech in its new multiplatform retouching app, Perfect365. Ridiculously cheap for what it can do, the full Windows version lets you apply basic fixes to skin, teeth, and eyes, and even detailed makeup; a super-simplified version is free online.

The free Windows download outputs files only large enough for web viewing, but the full version can output at any size.

ArcSoft Perfect365
$30, full version, direct
www.perfect365.com

NEWS FEED

> Gary Fong's Flip-Cage for iPhone is a $20 stand and tripod adapter that helps you hold the iPhone 4 or iPhone 3GS steady when shooting.

> The new Nero 11 media management software uses enhanced GPU accelerated hardware encoding for faster video processing and playback.

INSIDE TECH

Online App

Though you can use the PC-based version of Perfect365 without an Internet connection, the app performs at its peak only when you're online. Why? Because, when connected, it uses ArcSoft's massive, self-learning, cloud-based database of images to make complex decisions about the locations of faces—and facial features—in your photos.

MODIFIERS

An old and popular line gets revivified

WESTCOTT'S stalwart Apollo light modifiers for shoe-mount flashes have been around for decades. Now Westcott has rejuvenated the line with two new softboxes: the Orb and Strip.

The Orb, shown here, is a 43-inch, umbrella-style octagonal softbox that requires no dedicated speed ring and will fit on any shoe-mount flash bracket that accepts an umbrella stem. By removing its front diffusion panel, you can create a harder light with more contrast from its silver-lined interior.

The 16x30-inch Strip is a tall, narrow softbox that shares all the features of the Orb, save its shape. Easily flipping between horizontal and vertical deployments, the Strip has a removable 3-inch inset front diffusion panel.

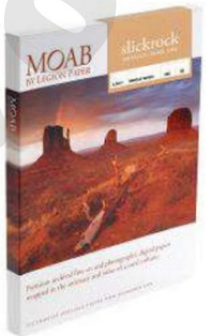
Both softboxes promise extra lighting versatility for any simple shoe-mount flash.

F.J. Westcott Apollo Orb and Strip
$130 each, street
www.fjwestcott.com

SILVERY FINISH

Inkjet paper goes metal

ONE ADVANTAGE of inkjet printing at home is the sheer variety of surfaces available—far more than you would have enjoyed in the darkroom days. But metallic paper, a darkroom favorite, has yet to be produced by any of the big three printer manufacturers.



Now Moab—known for fine-art papers—has introduced Slickrock Metallic Pearl, a glossy, slick, resin-coated paper. Its high sheen makes it great for black-and-white, particularly when printing images of reflective surfaces. Sizes range from 5x7-inch sheets to 44-inch-wide, 100-foot rolls. ICC profiles are listed on Moab's website for easy download.

Moab Slickrock Metallic Pearl 260
$45, street, for 50 letter-sized sheets
www.moabpaper.com

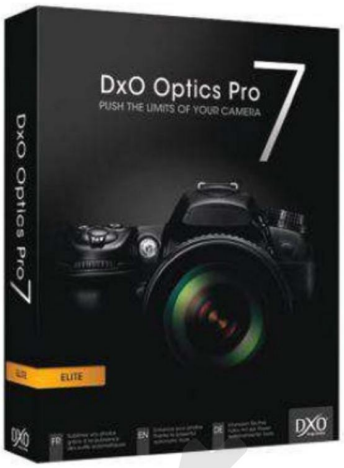
NEWS FEED

> Ioshutter is a cable and iOS app that lets you use your Apple iOS device as a wired remote shutter release for your Canon, Hasselblad, or Pentax camera.

> Somewhat late to the party, Sony has announced the release of it's first Wi-Fi-enabled digital photo frame, the DPF-W700, with Facebook integration and full 802.11b/g/n functionality.

> The Multiblitz Glamkit location lighting bundle offers a monolight, octagonal softbox, air-cushioned lightstand, rechargeable battery, and a rolling case.

> HP has teamed up with Adobe, Avid, and Sony software to create desktop and mobile workstations tailored for video editing. It also announced the HP ZR series of high-performance displays.



New Software

DxO Optics Pro 7

DxO, the imaging specialist that makes much of the software we use to test cameras, has a new version of its image-processor, Optics Pro 7 (www.dxo.com; $170–$300, direct). It uses DxO's lab-produced data to correct problems endemic to your specific combo of lens and camera. This new version offers faster processing speeds and sharpness correction, taking into account the way lenses make images softer around the edges.

THE LOWDOWN

CANON GOES HOLLYWOOD

Canon's DSLRs are playing a growing role in HD moviemaking, so it was no surprise when it announced two digital cinema cameras, the EOS C300 and C300 PL, along with seven new lenses in EF and PL (standard movie-camera) mounts. The new 8.23MP full-frame CMOS sensor, with larger pixels for less image noise in low light, captures HD video at 1920x1080p30.

Vorlagenboost

american PHOTO EVENTS

AN EVENING OF CREATIVITY, PASSION & INSPIRATION...

Front row, left to right: Brian Tausend, Andy Katz (Sony Artisan); Kayla Lindquist (Director, Sony Artisan of Imagery) Me Ra Koh (Sony Artisan); Fazia Ali Middle row, left to right: Nozomi Takeyabu, Cristina Mittermeier (Sony Artisan); Bob Tubbs (Sony Marketing Manager) Bottom row, left to right: Michael Kenny (Sony Senior Marketing Manager) Matthew Jordan Smith (Sony Artisan); Steve Sommers (Sony Vice President of Marketing); Brian Smith (Sony Artisan); David McLain (Sony Artisan)

SONY
make.believe

Left to Right: Mike Kahn, Director of Product Marketing, Sony; Mark Jannot, Editorial Director, Bonnier Technology Group

american PHOTO
EDITORS' CHOICE
2011

Sony & *American Photo*: Coming Together to Celebrate Photography

In what has become the must-attend event during PhotoPlus Expo, Sony and *American Photo* welcomed media analysts, professional photographers and industry icons in celebration of the art of photography, as well as the photographic community — whose collective vision shapes the way we see the world.

The evening began with a pre-party ceremony in which Sony was presented with an *American Photo* Editors' Choice Award for the Sony Alpha A77, and then transformed into a night of revelry where photography took its rightful place on center stage. Sony's Artisans of Imagery, a diverse group of talented professional photographers, and the winners of the Sony World Photography Awards provided a stunning visual backdrop that enveloped the evening's invitees with powerful imagery.

FOR MORE BEHIND-THE-SCENES PHOTOS, GO TO POPPHOTO.COM/SONYPARTY

NEW GLASS

THIS LATEST batch of lenses fits cameras from the lower end (the iPhone) to the decidedly high end (Leica's medium-format S-system cameras); two mount only on Canon and Nikon rigs. Still, the format limitations of these new lenses don't cut down on their allure.

Schneider Optics iPro Lenses **$189** This well-built pair of optics is the most sophisticated cellphone lens add-on we've seen yet. The kit contains wide-angle and fisheye lenses, which bayonet-mount to an included iPhone case, plus a lens holder that serves as a handle and tripod mount. More lenses, to be sold individually, are in the works.

Tokina AT-X 17–35mm f/4 **$720** Available only in Canon and Nikon mounts, this new constant-aperture member of Tokina's pro-quality AT-X line contains two elements of low-dispersion glass. Use it for full-frame coverage with its wide angle of view (it scales up to about a 26–53mm on APS-C). Sorry, no manual focus in AF mode.

Zeiss Distagon T* 25mm f/2.0 **$1,700**
At 1lb, 5 oz, it may be heavy—as well as pricey—but this well-constructed lens still has us all worked up. For Canon and Nikon only, Zeiss says that this wide, fast glass is extremely sharp and contrasty and produces virtually no color fringing—we'll soon put it to the test. Manual focus only.

Leica Elmarit-S 30mm f/2.8 **$7,495** Made for Leica's medium-format S system, this honkin' glass is the widest S-series lens so far (it's a 24mm equivalent in 35mm format). Not surprisingly, its hardy construction protects against dust and moisture. Leica claims high resolution and low distortion, but expect a workout—it weighs 2.5 pounds.

NEWS FEED

> On-demand book publisher Blurb will now publish your eBook digitally for easy viewing on your iPad, Kindle, or Nook at $2 a pop.

> Hoodman's RAW USB 3.0 transfers data from your Compact Flash or SD card at a roaring 5 Gbps. A drop-down door protects your port's pins when it is not in use.

> ACDSee's Pro 5 software features new drawing tools, dodge and burn, split toning, and 10GB of free online storage with ACDSeeOnline.

> Nissin's Di622 Mark II Professional flash (now available for Sony) provides wireless TTL, a guide number of 145 (ISO 100), and a power zoom head, which covers 24mm to 105mm focal lengths.

> *Mambo*—a digital, bilingual, Barcelona-based photo mag—launches its first print edition in January.

GRIPPER

A unique pistol grip lets you aim your diffused light

WITH A Lastolite Brolly Grip Handle ($30, street; www.lastolite.com), you can shoot with your right hand and light with your left. Lighter and more versatile than a handheld reflector, the Grip lets you aim a shoe-mount flash through a translucent umbrella for a softer, and, if you like, TTL-controlled, flash output—no assistant required. The Grip accepts 8mm or 10mm shafts, mounts on a lightstand, and lets you pivot the flash so the IR receiver faces the camera for wireless operation. It's sold alone, or in a kit with an umbrella. The name? "Brolly" is British slang for umbrella.

39%

of U.S. camera owners shoot at least 2 to 3 times per week.

56%

of camera owners who also own a tablet (such as an iPad or Galaxy Tab) shoot at least that frequently.

SOURCE: InfoTrends

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Les Cévennes, photo © Jacques Joffre / HDRsoft

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PHOTO CHALLENGE

LAURENT CHANTEGROS

RAINING LIGHT

Creating magic using a wireless, off-camera flash

SOME PHOTOGRAPHERS traverse oceans to find inspiration. But for Laurent Chantegros, 41, of San Diego, inspiration follows him around and calls him Daddy. "I spend a lot of time with my daughters," he says. "And I always carry my camera."

On this particular night, Emma, 11, and her sister were dancing with their umbrellas on the front lawn after ballet class. Chantegros saw potential in the scene, but didn't want to kill the mood with a full-on blast of flash: "I wanted to light the scene creatively—something out of the ordinary."

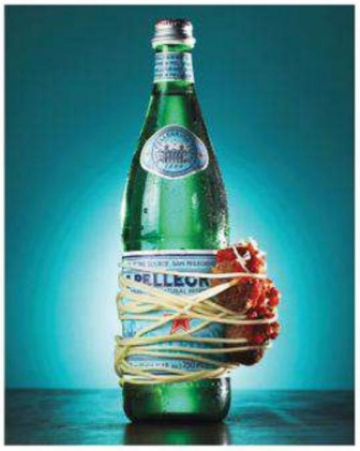
By mounting his Nikon SB-600 Speedlight inside of a studio umbrella and firing with a PocketWizard wireless remote, he captured the girl's youthful innocence, turning the umbrella into an eerie streetlamp of sorts.

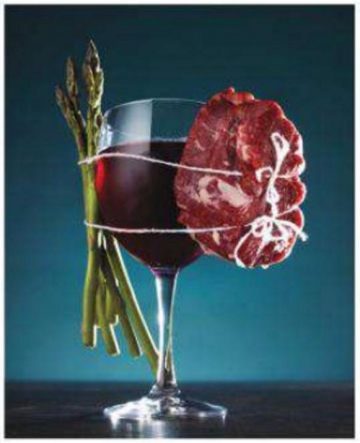
His biggest challenge? Balancing his flash output with the ambient light for the perfect exposure. But in the end, it only took three shots with his Nikon D200 to get exactly the effect he'd imagined.

—Matthew Ismael Ruiz

NEXT PHOTO CHALLENGE **This month, nature photographer Ian Plant explores the edge of light (page 70). Try shooting at dawn or dusk yourself—the best photo we receive by January 31 could win you $100 and publication here. Read the rules at PopPhoto.com/contests.**

Scanlagss





Food Pairings

Slick photos with a healthy dash of wit

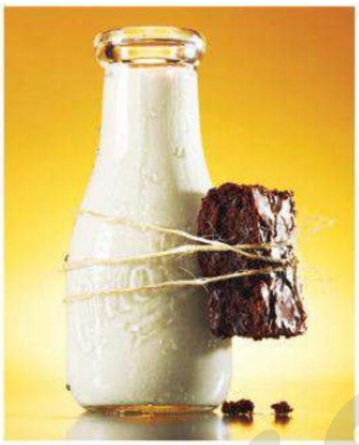
KYLE DREIER, 45, has a taste for visual simplicity. "I've always liked ideas that are strong enough to stand on their own, without requiring a specific environment or much ancillary propping," says the Nashville-based professional food photographer.

Before opening his own studio three years ago, he worked as art director for *American Way* magazine, and his sense of graphic design shapes his photographic style today. His penchant for engineering his subjects plays into all of his work now, but most of all in his personal project, "Pairings."

He says, "The idea just popped into my mind one day, and when I sketched it out I realized it would just be a question of engineering. And doing it in-camera, rather than [in]

See more of Kyle Dreier's culinary photography at dreier.com.

KYLE DREIER (9)



Dreier shot his food pairings using an Arca-Swiss medium-format body with Phase One back under Profoto studio lighting.

Photoshop, seemed a good way to learn more about food styling."

For his first experiment, a brownie-and-milk combo, the first logistical challenge was rigging the items together. Dreier used wire armature to fasten his subjects (supported by gaffer's tape) then bound them with string. He lit each pairing carefully with various Profoto strobes and softboxes with reflectors. "I'm used to working on client deadlines, and having long, leisurely days in the studio just helped me to play and learn," he explains.

Experimenting expanded the range of his pairings: a steak and merlot juxtaposes the decidely lowbrow hot dog and beer. It also led to some happy discoveries in styling, such as when he learned that cooled spaghetti is just sticky enough to help bind a meatball and a bottle of mineral water.

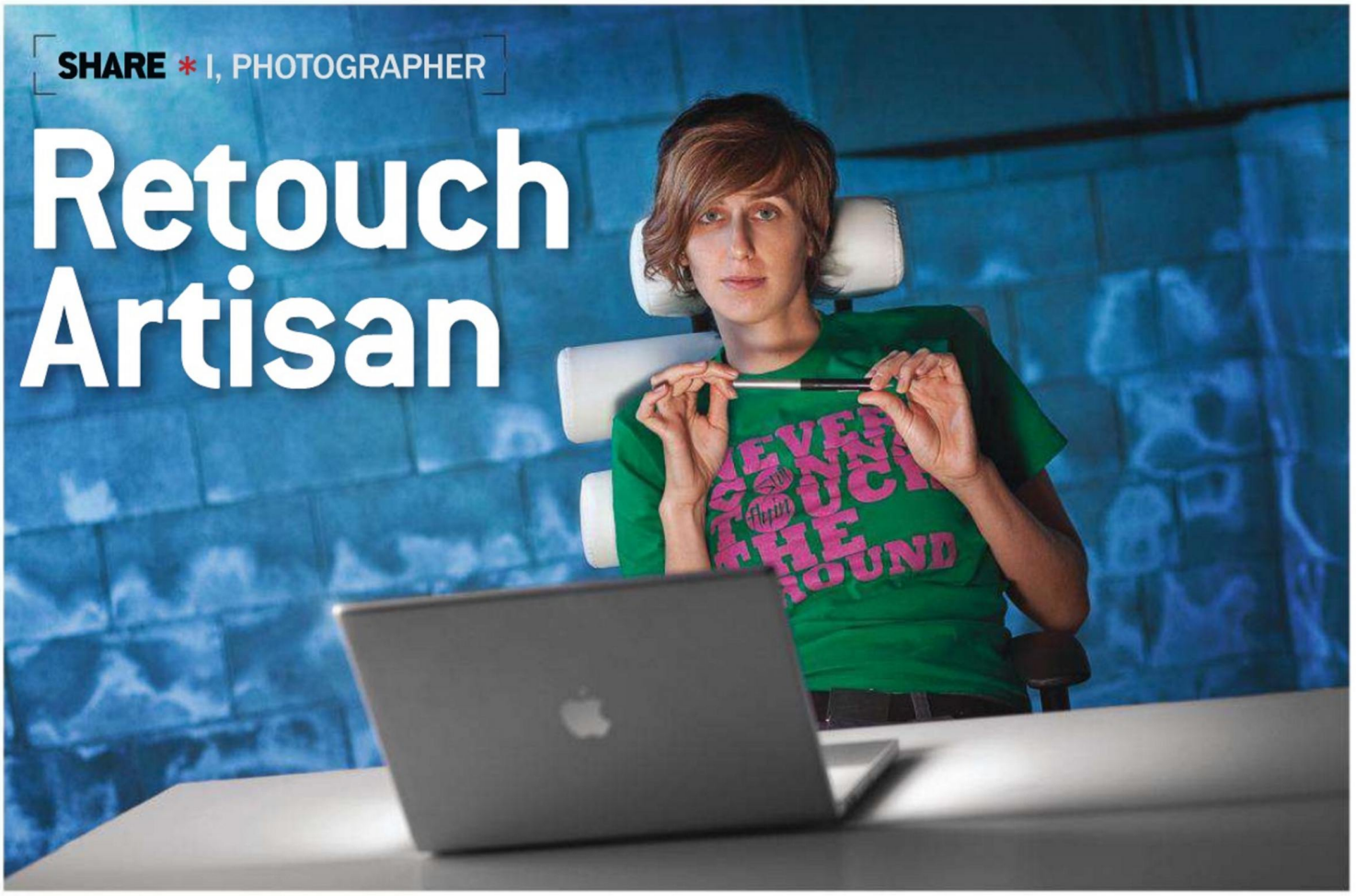
But the best lesson of all came when Dreier showed a final eight-image series to various art directors and buyers. He found that it was not only a great conversation starter, but one that stuck with clients.

"I often find myself making creative decisions based on what I see in the market, or based on what I think a client wants," he says. "This taught me that it makes a more lasting impression to produce what I'd like to see."

—Lori Fredrickson

World Wide Photo

Retouch Artisan



Working on images after the shooting has stopped

With a background in painting, how did you get into retouching?
In art school they were pushing me very hard to be a teacher and an artist on the side, and that didn't appeal to me. When I started looking for work I wasn't aiming for anything specific, just in the realm of the visual, and I got a job retouching without any real experience.

How did you get involved with Jill Greenberg, who's known for manipulating images?
She was the first person who hired me. I interviewed with her in 2000 and took a test, and she must have seen something in me because I didn't really have any experience. I worked with her for about two years—she moved to L.A. and brought me with her, and then I went freelance.

YOSHI MORIMOTO

Los Angeles-based Amy Dresser (amydresser.com) has transformed and touched up images for some heavy hitters, including well-known artist/photographer Jill Greenberg. Her work has appeared in countless national publications and ad campaigns.

To what extent did you collaborate with Greenberg on creating her look?
Her look was already established. I showed her some of my paintings in my interview; some of my work had a similar feel. I wanted to be the best I could, so I took home her archives. I studied them and did my best to keep the job, because I felt like my hiring may have been an accident. Luckily, our tastes were very similar.

How do you define yourself professionally?
While I work primarily as a photo retoucher, I don't identify as one. It's just not enough for me to feel satisfied with that title. I've been putting a lot of focus in the last couple of years into drawing, so I'd rather call myself an illustrator, but I don't consider the images on my website to be illustrations—that's just photo retouching. Professionally I can't call myself an illustrator, but creatively that's where my heart is.

What do you think it says about how commercial photography is practiced that someone without a photo background is so crucial to the process?
I know it's a little precarious, but it makes sense to me that my drawing and painting background led me into retouching. I have friends with backgrounds in photography, and because of my drawing background, my layers look a lot different than their layers. A lot of photo retouchers have illustration experience. I think the skill that makes a good retoucher doesn't have anything to do with having a photography background. In the end I'm just looking at a picture and trying to make that picture look better—

the fact that it's a photo is unimportant. That could just be me, since a lot of retouchers care about technical details that I don't care about, and I go more on instinct rather than things I learned in photography class.

How do you feel about the extreme transformations in some beauty shots?

I try to practice retouching in a way that I feel okay with myself at the end of the day. I prefer to use illusions to get to a visually appealing image without modifying someone in a way that's like liposuction. I'll stick to using shadows and highlights and evening skin tone rather than clipping someone's body into a smaller silhouette. I like working with images of athletes more than models because their actual body is being celebrated in the image, so I get to keep the image true to them. You see a lot of images of models that are retouched to a degree that makes no sense, and it's distracting.

Have you gotten any push-back from clients?

Definitely. I'm still working for other people and I need to make them happy. My approach is to deliver what I think looks okay and wait for someone to ask me to alter it. I try to do it modestly, and if they push to go further I can try to argue for my way; sometimes they listen, sometimes they want it to look the weird way. I'll make them happy, but if their aesthetic for the human form is that different from mine, I'll veer away from working with them regularly.

Is there a trick to making skin look smooth but still natural?

My trick is to not use a trick. It's like polishing marble with your pinky—I'm just slowly taking away the minimum amount that I can. I don't adhere to the belief of taking everything out and then trying to reapply a skin texture.

What editing software and retouching tools do you use?

I use Adobe Photoshop CS4 with no plug-ins. I use the dodge and burn tools the most; I spend 80% of my time dodging and burning. The next biggest thing I use is Curves, for color adjustments.

Do you use special hardware?

I have a 6x8-inch Wacom tablet, and I still use a CRT monitor. I have a second monitor for menus, but that's it.

How much time do you usually spend on an image?

There's a huge range. I do a lot of compositing, and those can take 50 hours; a standard image of a person is a minimum of two hours. I usually start by going over it quickly for things like dust or acne, then I do a base round of color adjustments, then finesse from there. It's a small honing process until I run out of time. How much time I have to work on something is usually dictated by the budget. I never get to work on an image for as long as I want.

What do you find most challenging about what you do?

Working with unrealistic expectations. I've done some projects that need to be rescued; they should really just reshoot what they need rather than trying to make something out of what they have. Composites can be hard, because I still want things to look natural. I know people assume I make things look fake, but retouching is a little bit of both—you make some real things look fake and some fake things look real.

—Interviewed by Kathleen Davis

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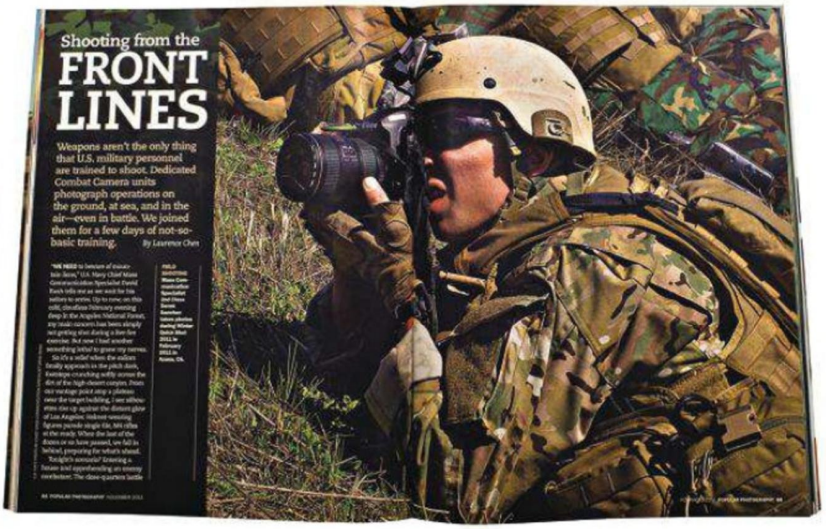
Shooting from the
FRONT LINES
Weapons aren't the only thing that U.S. military personnel are trained to shoot. Dedicated Combat Camera units photograph operations on the ground, at sea, and in the air—even in battle. We joined them for a few days of not-so-basic training.
By Laurence Chen
DAN BRACAGLIA

First Salute

Wow—what a pleasant surprise to see the photos and story about the "Combat Camera Corps" in the November 2011 issue. As a retired U.S. Navy Chief Photographer, and one who spent almost seven years with Combat Camera, I appreciate your recognizing the military combat camera role during peace and at war. During my tours, I covered the U.S. Marines several times for stories in military magazines and the civilian press. Thank you for the story.

Milt Putnam
Fletcher, NC

I RECENTLY read your November edition with great interest in the African Safari Guide. Having just returned from Kenya on October 15—with four days at the Masai Mara—I have to disagree with the remark about the political unrest in Kenya affecting tourism to the Mara. This is far overblown and not something I would worry about. The problems in Kenya are in the far north near the border with Somalia—a long ways from the Mara, which borders Tanzania's Serengeti Park. We encountered no problems whatsoever in Nairobi or the park. Our guides complained that the U.S. State Department warnings were inaccurate. The park was full of tourists, and the wildlife photography was first-rate. I have been to 25 game parks—public and private—in Africa over the last 10 years, and the Mara tops all of them. Large populations of wildlife abound, with wonderful landscapes and friendly people.

Greg Warchol
Marquette, MI

IN NOVEMBER'S Fix It Fast, you asked for comment on the image that you reworked. I am an easy-going guy, but this picture irks me. It may only be the loss of detail in the printing process for the magazine, but I see a total loss of

detail in the water over what is depicted in the color image. Yes, I think you dulled it down too much. In the black-and-white conversion, I would have added a control point to the darker area of the water and made it darker to bring out the sinister aspect of the raging river, but I actually think the Before picture is awesome as it stands.

Charlie Badalati
Palm Coast, FL

I WOULD like to respond to George Cunha's letter in the November issue. Mr. Cunha, motion blur is definitely an artifact of the camera. It is also a tool used by photographers to bring a feeling of motion into a still photo. It is also used artistically to produce a surreal image by smoothing the flow of water in a "running stream or waterfall." Please feel free in your endevours to avoid motion blur, but I can guarantee you'll be seeing that "trite cliché" for a long time.

Rob Bixby
Jacksonville, FL

POPULAR PHOTOGRAPHY

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POPULAR PHOTOGRAPHY

Doing a Duotone

Q I want to make split-tone images in Adobe Photoshop with Duotone. But after applying a Duotone (Image > Mode > Duotone), why are the only options for saving the files PSD, EPS, PDF, RAW and Large Document Format (PSB)?

C.M. Dulaney
via email

A *Duotone is a color mode, like RGB or CMYK, used primarily for printing on a two-color press (you can also make tritone and quadtone images, with three and four colors, respectively). Some photographers like to use Photoshop's Duotone mode to give images a split-tone look, but it is now easier to create a split-toned image in Adobe Camera Raw. For one thing, Duotone requires you to begin with a grayscale image, and the file can't be saved as a JPEG.*

If you still want to use Duotone to add tone to your images, this is the workflow to employ:

1. Convert the image to black-and-white using Photoshop's b&w filter (or a plug-in) to get a good conversion.

2. Switch to Grayscale mode, discarding the color information.

3. Switch to Duotone mode. In doing so, choose the colors you want for the tones, or use one of the many presets.

4. Switch back to RGB mode.

5. Save as a JPEG or other file type.

Q **ON AUTO PILOT**

Most of my shots taken using my DSLR are in the Auto or Program control modes with evaluative metering. Are more expensive cameras better in these modes than the less expensive models?

Stan Davis
Buena Park, CA

A *The autoexposure program lines of DSLRs are pretty similar, so the real issue here is how well the camera's evaluative metering works. And the settings made by higher-end cameras may be more consistently accurate than those of lesser models. Why? The metering systems of more expensive models may have more metering segments or pixels, may take color information into account as opposed to simple luminance, and may*

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use an extensive database of lighting situations instead of a simpler algorithmic calculation, and so on.

Having said that, however, we should note that all evaluative meters make what are essentially educated guesses. And while the "more educated" evaluative meters may have better odds in tricky lighting situations, the evaluative systems in even the lowest-end entry-level camera models are pretty darn good.

In any event, we advise using Program rather than Auto. Program lets you do two important things that Auto does not: Shift to a different but equivalent exposure setting, and use exposure compensation—for those times when you don't like your meter's best guess.

Q AUTOEXPOSURE IN POST?

I shoot weddings in RAW with a Canon EOS 7D and import my images to Adobe Lightroom 3. I developed a preset that solves most color temperature, saturation, fill, and highlight issues, but not exposure. Is there any program or preset that will batch-process dozens of images at once, bringing underexposed images up and taking overexposed images down to some standard exposure to have a consistent starting point?

Tom Read
Pinckney, MI

A *The closest you can get to making a preset for a standard exposure adjustment would be to use Lightroom's Auto Tone feature, whose purpose is to get to a basic, good exposure by adjusting exposure, highlight recovery, fill light, blacks, brightness, and contrast. To do this, make a copy of the preset you normally use, and check the Auto Tone box. That way these settings will be adjusted automatically, but white balance, clarity, tone curve, and other settings will be adjusted according to your usual preset.*

What Should I Buy?

Reader Bill Sotak wants to transition from his mid-1970s film Nikons to a current DSLR, and wants one with external dials for manual control of aperture and shutter. Current DSLRs have control wheels, and—if there are two of them—offer fast and convenient manual exposure control. The Nikon D7000 ($1,200, street, body only) and higher models have two command wheels and can use older AI Nikkor lenses with metering.

PHILIP RYAN (LCD IMAGE)

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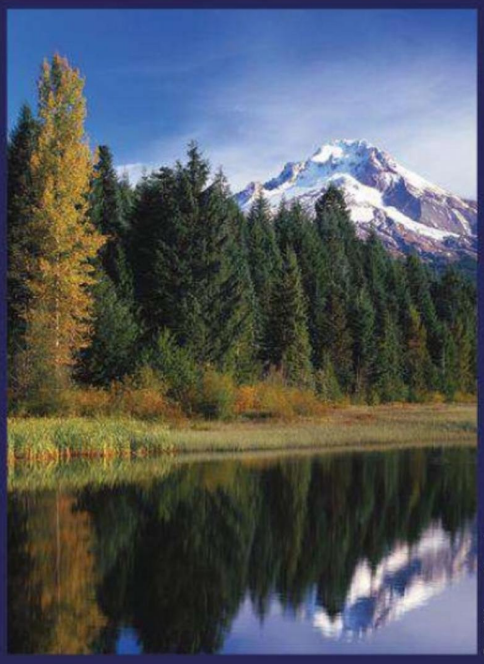

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We will base ourselves in Portland, a lively city brimming with a fresh energy that will set the tone for your upcoming adventures. Our first day trip will take us to Wahclella Falls, one of the most breathtaking waterfalls in the Columbia River Gorge. Station yourself in front of the plunge pool and capture the two tall, snow-white sprays of rushing water dashing down walls of carved basalt rock. To further narrate the setting, zoom in on nearby details such as the moss-drenched tree trunks and boulders.

Continuing on the historic Columbia River Highway, we will make a stop at the must-see Vista House on Crown Point, a pioneer memorial and viewpoint perched atop a sheer cliff more than 730 feet tall. The building itself is a photographer's delight, while the accompanying panoramic vista is nothing short of spectacular. For a portrait of true natural drama, fill your frame at Multnomah Falls, a two-tiered waterfall at a height of 620 feet, the tallest in the state of Oregon. Photograph the falls from afar to illustrate a serene ribbon of cascading water,or position yourself on Benson Footbridge and show what a roaring, powerful beast this force of nature can be.

For a glimpse into what life is like on the Columbia River, we will make a stop in Cascade Locks, a quaint town with a quiet charm and fine view of the famous Bridge of the Gods. Pointing our lenses skyward from the nearby city of Hood River, try out your new techniques when you take in the snow-covered majesty of Mount Hood, a potentially active volcano and the highest point in Oregon.

Perhaps nothing can truly prepare you for the jaw-dropping artistry that is Crater Lake. Capture this exquisite body of water as its mirror-like surface reflects the towering cliffs and evergreens ringing its edges. The possibilities here for postcard-worthy landscapes are endless.

Don't miss the opportunity to visit this gem of a state while enriching your knowledge and portfolio. Sign up today!

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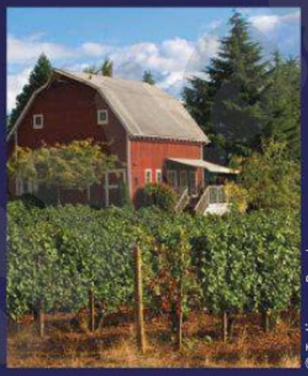
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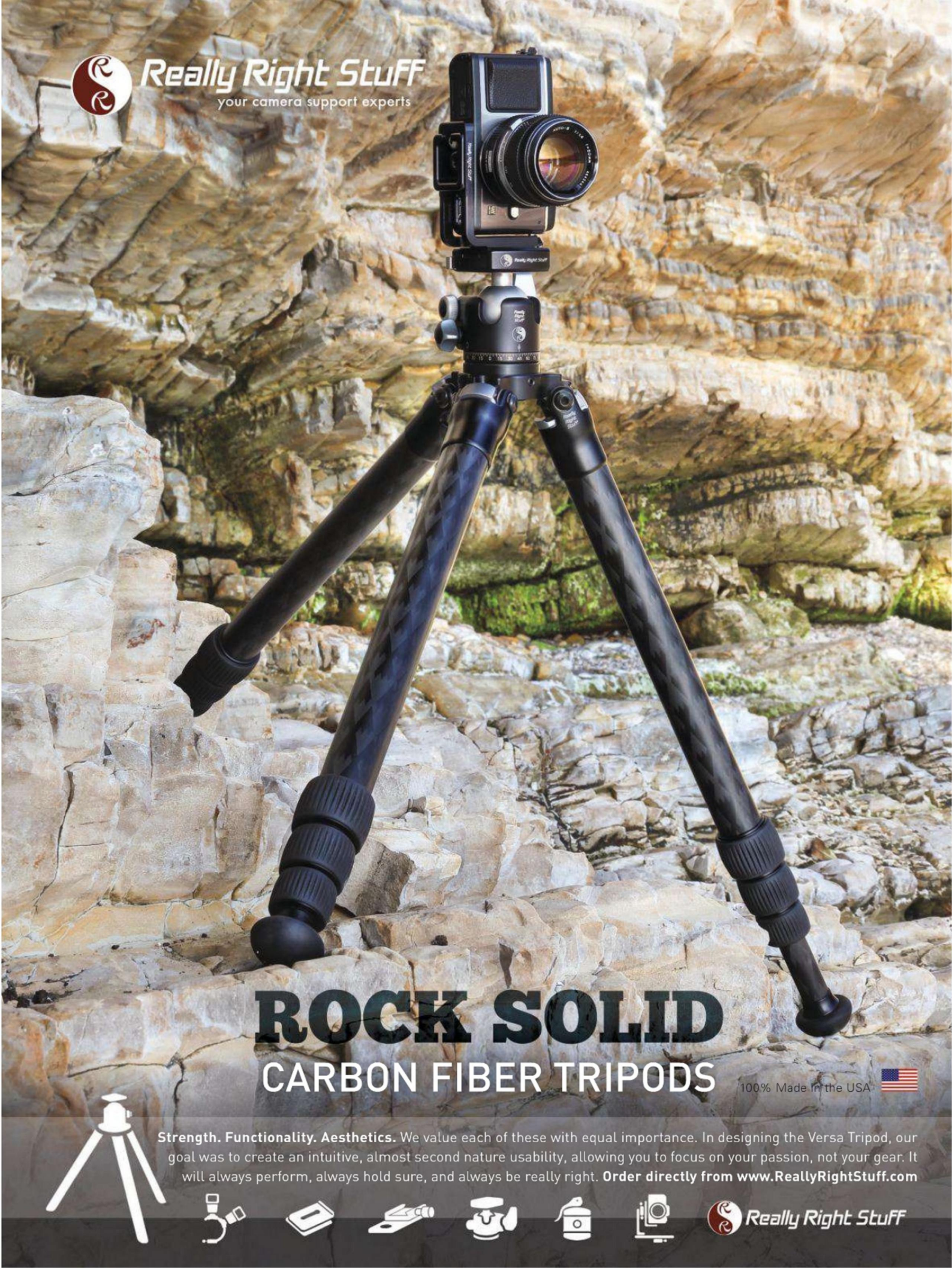
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HOW

EXPERT TIPS AND TECHNIQUES FOR BETTER PHOTOS

LEARN NEW TRICKS FOR COMPOSING AND LIGHTING PETS AND PETALS

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MASTER THE SPLIT ND FILTER

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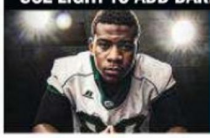
USE LIGHT TO ADD DARKNESS



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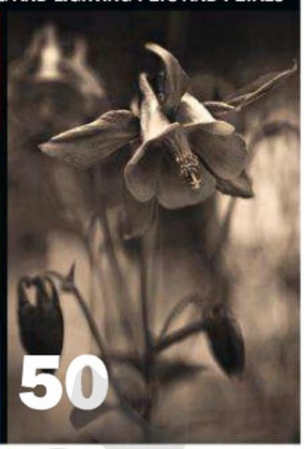

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CREATIVE THINKING

CHILL OUT

When an exotic location isn't quite exotic enough

THESE DAYS, it seems that out-of-the-way places have become so common in advertising and mass media that many are losing their exotic edge. So if you find yourself in, say, Antarctica, how do you bring back photos that are special? Colorado-based pro Pete McBride found himself faced with such a challenge, and overcame it with the help of ocean rowing adventurer Olly Hicks, whose legs you see here.

PETE MCBRIDE

To stop the action, Pete McBride took several shots at 1/400 sec and f/11, ISO 200.

In 2008, the two were part of a five-week expedition, sailing and kayaking the west coast of the Antarctic Peninsula for a story on climate change. It was mid-January, sunny and abnormally warm for that time of year—the temperature was in the 40s.

McBride has learned that when Mother Nature hands you such a gift, you take it. In this case, McBride and Hicks took a dip in water so cold it could have killed them in minutes.

McBride doesn't recall exactly how the two of them wound up wet, but "I quickly realized this was probably going to be one short swim, and it's only going to happen once," he says.

That's when his photographic instincts kicked in. Swimming in Antarctica would be novel, he realized, so composing for the icy expanse of the landscape, not for the diver, was key.

Getting the shot required classic sports technique: Think about where the action will unfold, decide whether you're going to blur or freeze it, and set depth of field as needed. McBride focused on Hick's entry point and captured four frames in continuous shooting mode with his Nikon D300 and 17–55mm f/2.8G DX zoom lens set wide.

Before diving in himself, McBride stopped to consider the commercial potential of the scene. "I thought about what might sell [products]," he says. "Sometimes there's a huge overlap [between editorial and advertising images], and sometimes there's not." This idea seemed clearly editorial.

McBride tried a front flip, but landed on his back. Nonetheless, the "flop" shot was used for a Patagonia clothing ad. And the first shot of Hicks, shown here, ran in a National Geographic story on tourism in Antarctica. "It was the shortest and most painful swim I've ever done," McBride remembers. A small price to pay for a versatile—not to mention, profitable—photographic moment. *—Laurence Chen*

HORIA BOGDAN

Li'l Fill

A little more range for HDR

Biologist and photographer Horia Bogdan shot with a Canon EOS Rebel XTi and 10–20mm f/4–5.6 Sigma lens; two exposures of about 1 sec at f/9, ISO 100. See more at www.horia-bogdan.com.

FOR THIS deep-focus view of Apuseni Nature Park in his native Romania, Horia Bogdan combined two exposures—one each for the foreground and sky—to make a high-dynamic-range image. We thought it would look better still with more shadow detail—the point, after all, of HDR—especially in the trees along the ridge.

We stayed with the photographer's well-made HDR image, as it contained plenty of information. In Adobe Photoshop CS5, we brought up shadows with the Shadow/Highlight tool, and used a Hue/Saturation layer to desaturate only the greens, effectively lightening them. We then cropped to a 3:2 aspect ratio, making the foreground blossom more prominent. Finally, to lessen the cool color cast, we added a slight (85) warming filter. Total time fixing: 15 minutes. *—Dan Richards and Debbie Grossman*

PHOTO GLOSSARY **PAINTING WITH LIGHT**

THIS CAPTURE TECHNIQUE is done in the dark, with the camera on a tripod and shutter speeds measured in full seconds, if not minutes. It's called "painting," because you typically move a light source like a painter moving a brush across a canvas. Using continuous light sources produces lines of light that outline or encircle a subject—see Backstory on page 116. These brush strokes can also draw an object, a geometric shape or pattern, or words. Alternatively, photographers who paint with instantaneous flash often add gels for color and highlight objects in a scene such as building façades or trees against a dark sky. Either way, you generally hold open the shutter on the Bulb setting and dress in black (even the light housing—the grip of a flashlight, for example—should be black) to prevent your light painting from becoming a self-portrait.

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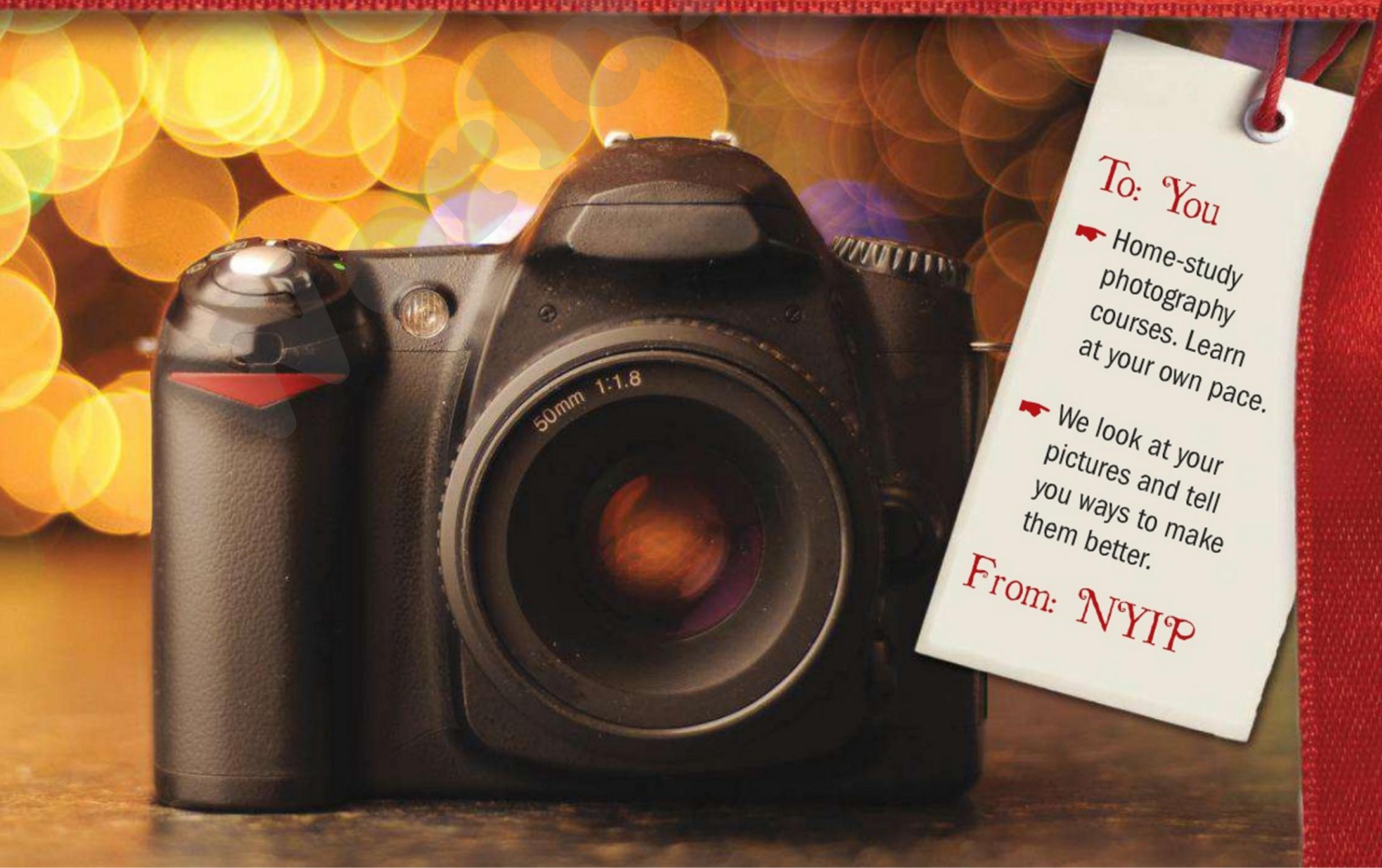
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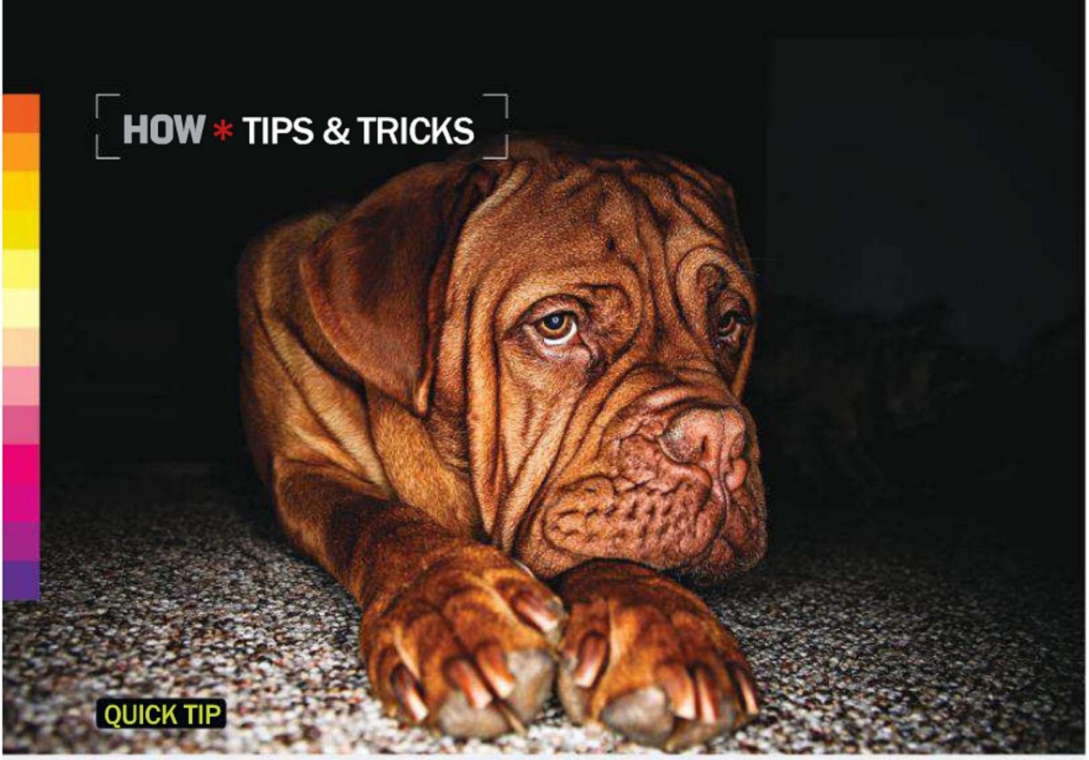


QUICK TIP

Find the Eyes

With kids and pets, get to eye level

A COMMON composing bugaboo for new photographers? With shorter subjects, the tendency is to shoot from above, looking down on them. Among other problems, this higher-than-thou shooting angle introduces unnatural perspective distortion. And the wider the focal length of your lens, the weirder the distortion.

For children, this can result in large heads and relatively tiny feet. When pets are photographed from above, their bodies become as important as their eyes—not good for capturing their personality.

The solution is simple. Do as Mat Garber did with this French mastiff: Kneel or lie down to shoot into your subject's eyes.

Garber's lighting also contributed to the success of this portrait. He mounted an ExpoImaging Ray Flash ring-light adapter onto his Canon 580 EX II Speedlite for a brighter light with more contrast, bringing out all the color and texture in the mastiff's beautiful coat. *—Peter Kolonia*

Mat Garber photographed Jackson, a French mastiff, using a Canon EOS 5D and a 24–105mm f/4L Canon EF IS zoom. Exposure, with ring flash: 1/80 sec at f/5, ISO 100.

MAT GARBER/MAT & ASH PHOTOGRAPHY

What's This?

Tripod Leveler

▶ **What it is:** A base that fits between a tripod and its head, a leveler (typically) offers 5 degrees of tilt to assist in leveling a horizon line.

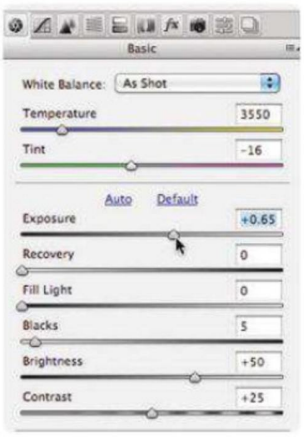
▶ **Why use one:** When used with a pan/tilt tripod head, it allows for much quicker leveling of the camera than you can achieve by using pan/tilt locks or by extending or contracting the tripod legs. Levelers prove especially helpful on rocky terrain, and they allow for quick adjustments, thanks to built-in spirit levels.

▶ **Which to buy:** It depends. Some, like Acratech's, take quick-release plates. Manfrotto's has multiple thumb screws for very exact head positioning. The new Slik, shown here, carries an attractive street price: $60.

30-SECOND SOFTWARE

EXPOSURE VS. BRIGHTNESS

When you're converting a RAW image using Adobe Camera RAW or Lightroom, you'll see two sliders that appear to do very similar things: Exposure and Brightness. But they actually have very different applications. Use Exposure first to set your image's white point and to decide where to clip the highlights. (After doing that, use the Recovery slider to bring back any lost highlight detail if you need to.) Brightness is your last step. Unlike Exposure, it won't clip your highlights. Instead, it will compress one end of the image's histogram and expand the other to give you—depending on the direction you slide it—a brighter or dimmer overall photograph. *—Debbie Grossman*



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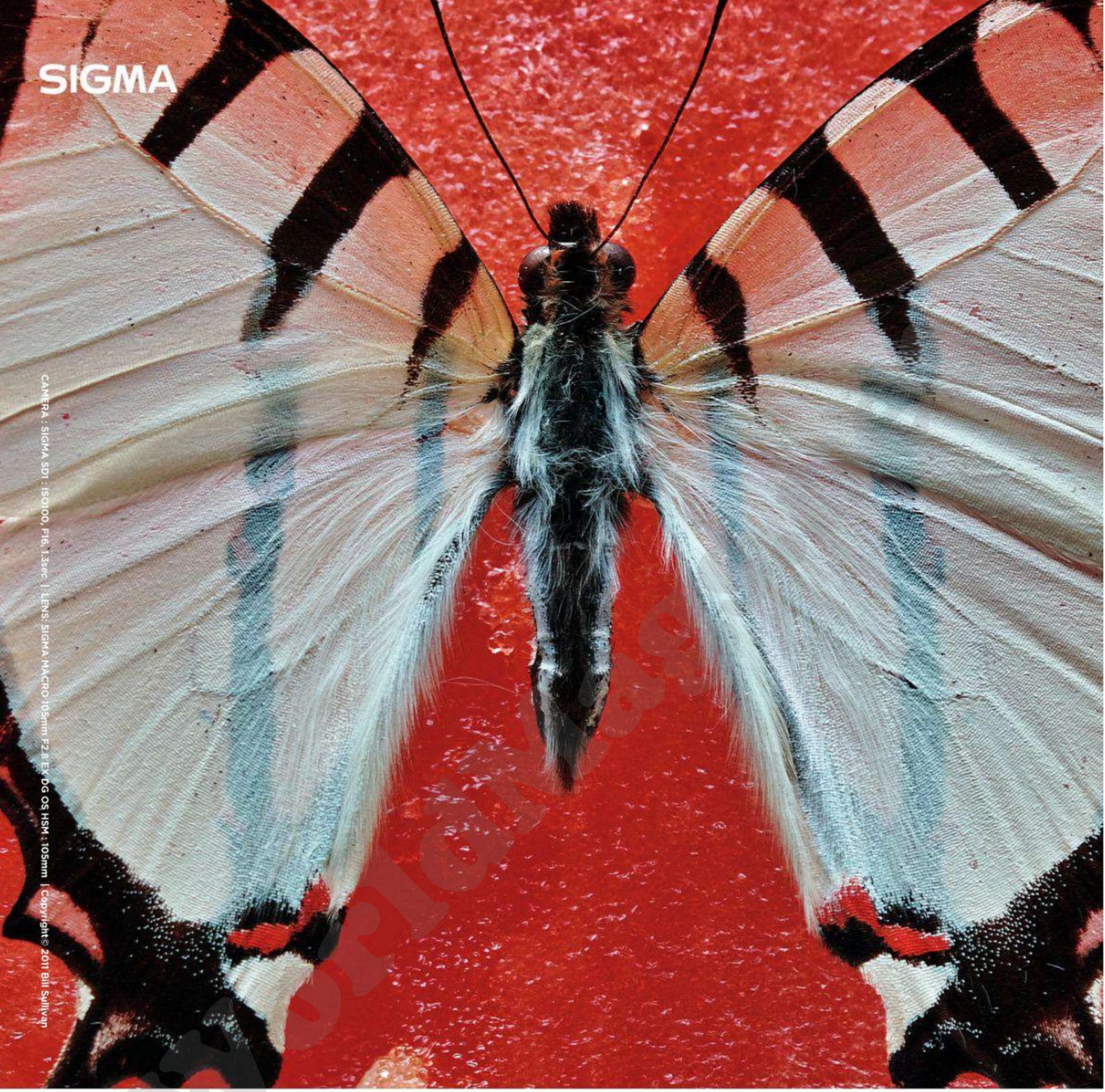

CAMERA : SIGMA SD1 : ISO100, F16, 1.3sec | LENS: SIGMA MACRO 105mm F2.8 EX DG OS HSM : 105mm | Copyright© 2011 Bill Sullivan

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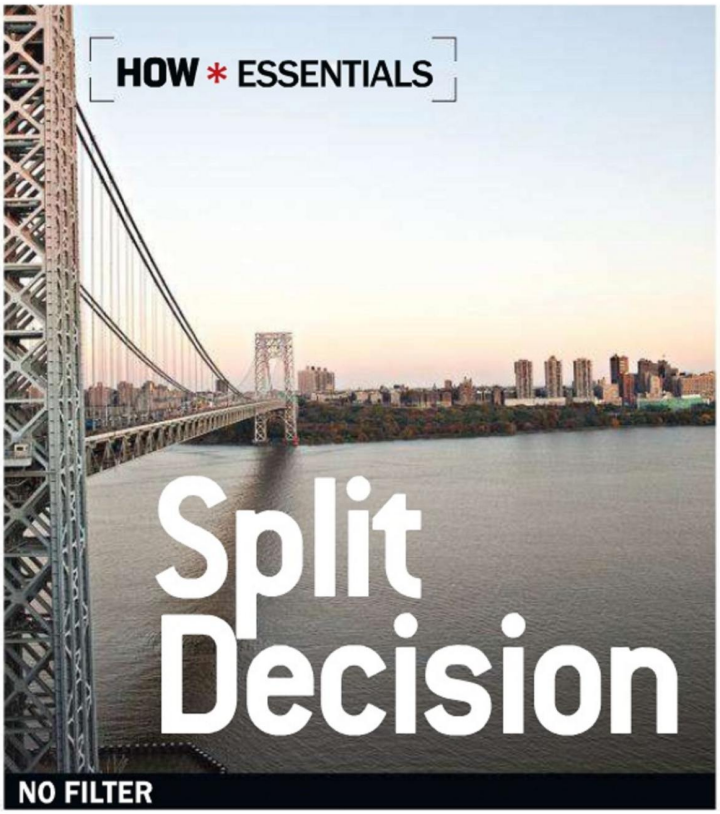
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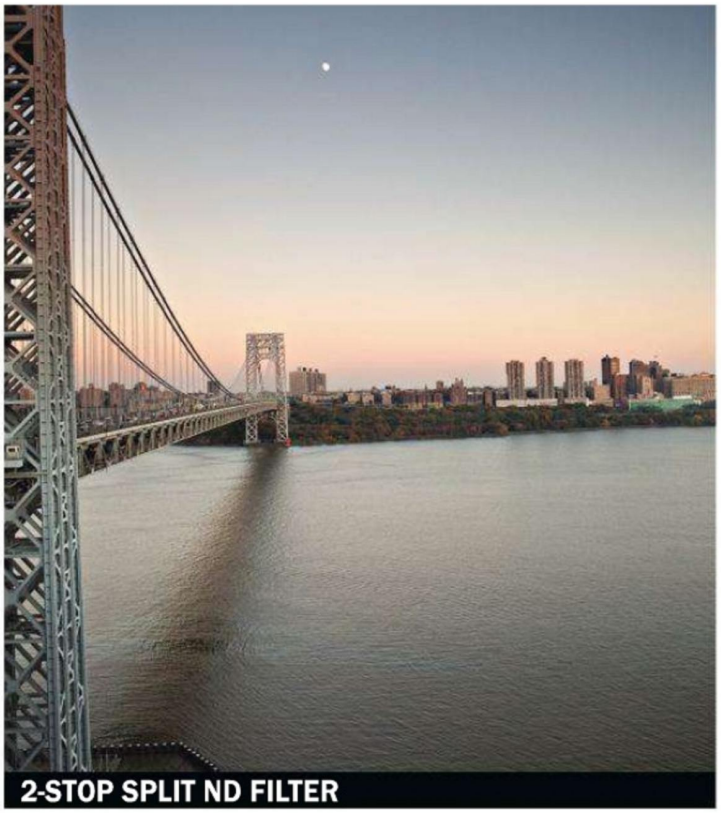
2-STOP SPLIT ND FILTER

When and how to use a split ND filter

WELL INTO the software age, a low-tech photo enhancement device still remains popular. It's the split neutral-density (ND) filter; many landscape enthusiasts won't leave home without it.

A brilliantly simple idea, the split ND helps solve (or mitigate) the problem of the sky/ground exposure mismatch. By positioning the dark segment of the filter over the bright sky portion of the frame, you can set an exposure sufficient for detail in the darker part of the image without having the sky blow out in overexposure. Put another way, you can get the right exposure for the sky without the ground falling into shadow.

Many split ND users choose square or rectangular filters, which can be shifted or rotated for precise placement of the dividing edge. This can be hard-edge, for a fairly abrupt transition from plain to neutral density, or graduated, for a continuous transition from light to dark. Some pointers:

- **Know your density.** Filter makers often state neutral density using a logarithmic scale: Just remember that every 0.3 on this scale is 1 stop less light transmitted, so 0.6 ND is 2-stop, a 0.9 is 3-stop, etc. Others use an exposure factor: A 1-stop ND is 2X, a 2-stop is 4X, a 3-stop is 8X, and so on.
- **Hard-edge is usually better.** Since horizon lines are themselves hard-edged, it figures that these fit best. Grad filters work better for scenes where the horizon line is uneven. But with a very jagged division, the shot may look weird—you might want to do some touchup in an image editor.
- **Consider rectangular filters.** The extra length gives you more leeway in positioning the horizon line high or low in the frame.
- **Be careful with color.** It might be tempting to goose up a gray sky with a split blue filter, or warm up a cool sunset with a split amber, but it can look fake.
- **Meter twice.** Determine a good exposure for the sky and ground separately, and figure the difference in stops. That's the ND filter you should start with.
- **Split NDs can be stacked.** The resulting density is additive—a 0.6 plus a 0.9 makes a 1.5, or five stops.
- **Quality counts.** Cheap split ND filters may impact the clarity of your photos and may have their own color casts. It pays to buy high-quality filters from established manufacturers.
- **Use a tripod.** Trying to use split NDs handheld will drive you mad.

—Dan Richards

With a Tiffen graduated 0.6 ND in place, a washed-out sky takes on tone—and the moon appears. Shot with a Canon EOS 5D Mark II and 25mm f/2.0 Zeiss Distagon T* lens; 1/125 sec at f/5.6, ISO 800.

DAN BRACAGLIA (3)

FADE OUT FILTER FASTENING

The Cokin brand of filter holders has become close to a universal standard. Name-brand filter makers like Lee, Schneider, Singh-Ray, and Tiffen all make filters to fit Cokin holders. (The lens at left is wearing a Tiffen filter in a Cokin P holder.)

Regardless of brand, make sure the filters you use will be large enough. The Cokin A size (66mm wide) is too small for many DSLR lenses; the P size (85mm wide) or Z-Pro size (100mm wide) may be better choices. Even if a filter is big enough to cover your glass, the holder may cause vignetting on wide-angle lenses.

But just so you know, you don't really need a filter holder. Contributing Editor Tim Fitzharris uses bits of gaffer tape to position filters on his lenses. Don't use duct tape—it will leave a gooey residue upon removal.

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Manatee Up

Photographing Florida's gentle giants

MICHAEL PATRICK O'NEILL/OCEANWIDEIMAGES

IN 1493, Christopher Columbus, sailing through the Caribbean, spotted three "mermaids" and described them as "not half as beautiful as they are painted." No doubt, as what Columbus actually saw were West Indian Manatees, which, at 10 feet long and roughly 1,000 pounds, are no willowy beauties.

These easygoing herbivores still winter along Florida's western coast, where warm springs empty into the Gulf of Mexico. Though now endangered, manatees have become subject to a booming tourist industry. December to March is peak season, and plenty of snorkel boats run photo trips.

M.P. O'Neill captured this manatee in Florida's Crystal River with a Nikon D2X and Tokina 10–17mm f/3.5–4.5 in an Aquatica housing.

While scuba gear is not permitted, "there's no need for it, because the water is normally very shallow," says renowned underwater shooter Stephen Frink (stephenfrink.com).

The prime region is the Crystal River area, about 75 miles north of Tampa. The clear water of the Three Sisters Spring area and the abundance of manatee makes this the best spot for photographing them.

Most outfitters provide snorkel gear, and some, wetsuits—which is nice, as the 72-degree water can feel chilly after a while. When to shoot? "While light penetration is best at noon, I like the directional light of early morning and late afternoon far better," says Frink.

Wide lenses and an underwater housing are essential. Frink uses a Seacam housing and strobes. He lets sunlight illuminate the top of the manatee, while his flash adds fill light below. *—By Jeff Wignall*

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Vanishing Act

Use bright lights to erase a busy background

RYAN GIBSON

RYAN GIBSON, an editorial photographer from rural Georgia, specializes in athletic portraits. One of his favorite places to shoot? Locker rooms. "When I'm working on a feature story, I want to get as much variety as I can from a sitting," he says. "After we do the field, stands, or courtside shots, I like working in the locker room. Depending on how I use my lights, I can get a lot of different looks there in a short amount of time."

You can see one of those looks in the above photo: With a creative camera angle and lighting, Gibson produced a near-black background that draws the viewer's attention almost entirely to this high-school defensive end.

Ironically, to create this darkness, Gibson cranked his location strobes up to their brightest power settings. By doing this and by moving the lights close to his subject, Gibson could expose using a fast shutter speed, small aperture, and low ISO, all of which worked to render the background almost completely black and locker-free.

But because entirely feature-less black backgrounds can be boring, Gibson added some pop

Ryan Gibson is a portraitist who also freelances editorially for publications such as *ESPN HS* and *Atlanta*.

REMOVE CLUTTER WITH LIGHTS

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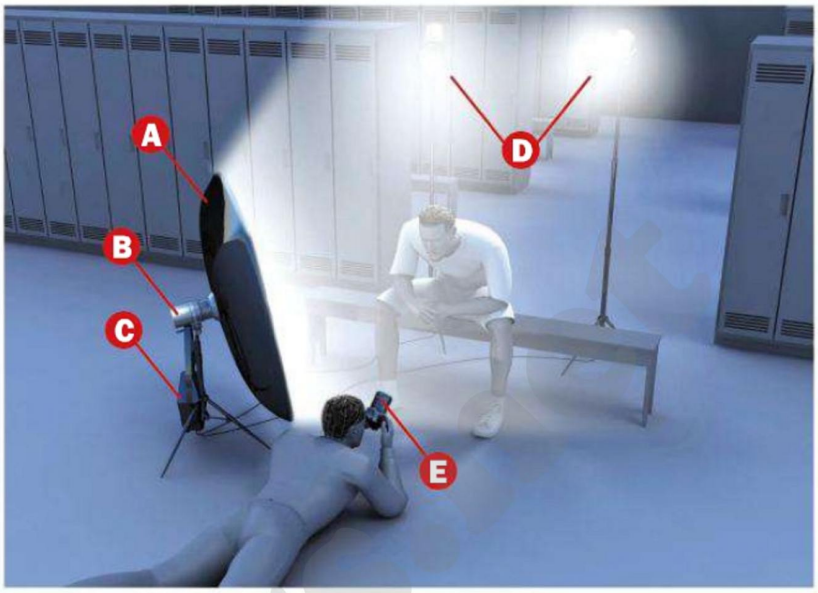


KRIS HOLLAND/MAFIC STUDIOS (ILLUSTRATION)

A low camera angle helped Ryan Gibson visually elevate and enhance his subject. Working this low required putting his Westcott 5-foot Octabank softbox (A) close to the ground and aiming it slightly upward to get light into his subject's eyes and chin. His main light was an AlienBees B800 monolight (B) that he powered with a Paul C. Buff Vagabond II portable battery pack (C). The Vagabond also powered Gibson's two background kickers: 400-Ws Westcott Strobelite Pluses (D) aimed directly at the camera position. He fired all three strobes using Paul C. Buff CyberSync flash triggers. Gibson shot with a Canon EOS 7D and 11–16mm f/2.8 Tokina zoom (E). "For this type of low-angle shot, I always ask my subjects to stare directly into the center of the lens as though they're trying to see right through the camera," says Gibson. "This helps to produce an intensity in the facial expression." The ground-up point of view also helped the photographer crop out background clutter.

THE GEAR

AlienBees B800 monolight **($280, direct)**

Westcott 5-foot Octabank softbox **($400, street)**

Westcott Strobelite Plus monolight **($230, street)**

to the background by once again getting creative with his lighting. He mounted two small strobes on stands behind his subject and aimed their output directly at the camera. "The background lights add an intensity to the shot and lend an almost theatrical 'star power' to the athlete," the photographer says.

This strategy, however, introduced a problem: flare around the edges of his subject. "There's no way to avoid it in a shot like this," says Gibson. "To control it, the small aperture helped, but we also played around with the positioning and direction of the lights. Even tiny adjustments made a big difference in reducing the flare pattern."

Gibson exposed for 1/200 sec at f/18, ISO 100. He adjusted color and contrast in Adobe Lightroom and cloned out the light-stands in Photoshop.

Another challenge? Eliminating the lightstands in Adobe Photoshop CS5. "If I have gear in the frame that I'll clone out in post, I usually shoot from a tripod and make an overall shot of the scene without the equipment. It makes eliminating it later much easier," he explains. "But because of the low camera angle, that wasn't possible here. Instead, I arranged the lights and exposure to minimize the length of the stands that had to be cloned away." —*Peter Kolonia*

worldofps.com

AFTER

MICHAEL FREEMAN

Michael Freeman created this image for his book *China Contemporary*. It is actually the result of several images stitched together. See more of Freeman's work at www.michaelfreemanphoto.com.

Low-Light Trick

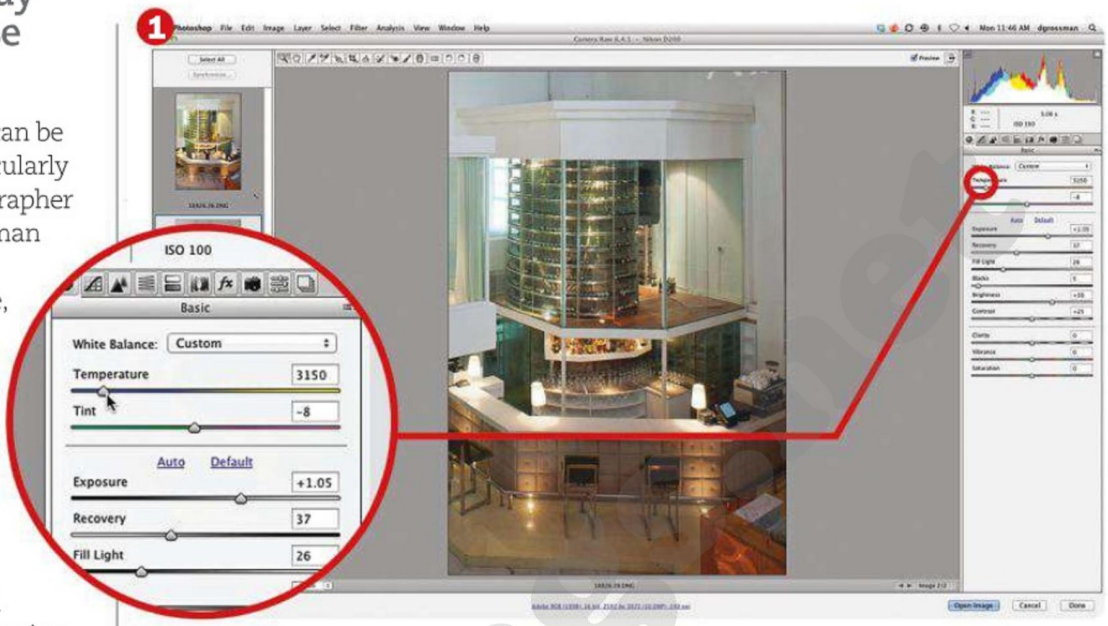
An innovative way to minimize noise in your image

LOW-LIGHT photography can be a difficult business, particularly with architecture. Photographer and author Michael Freeman faced such a challenge when shooting this image, included in his book *China Contemporary* (Thames and Hudson, 2009). He needed to capture this large and dimly lit space with a DSLR while avoiding distortion and noise.

Freeman wanted to add life to the picture, but capturing the bartender shaking a cocktail would have required a high ISO to avoid extreme motion blur, and this would have produced far too much image noise.

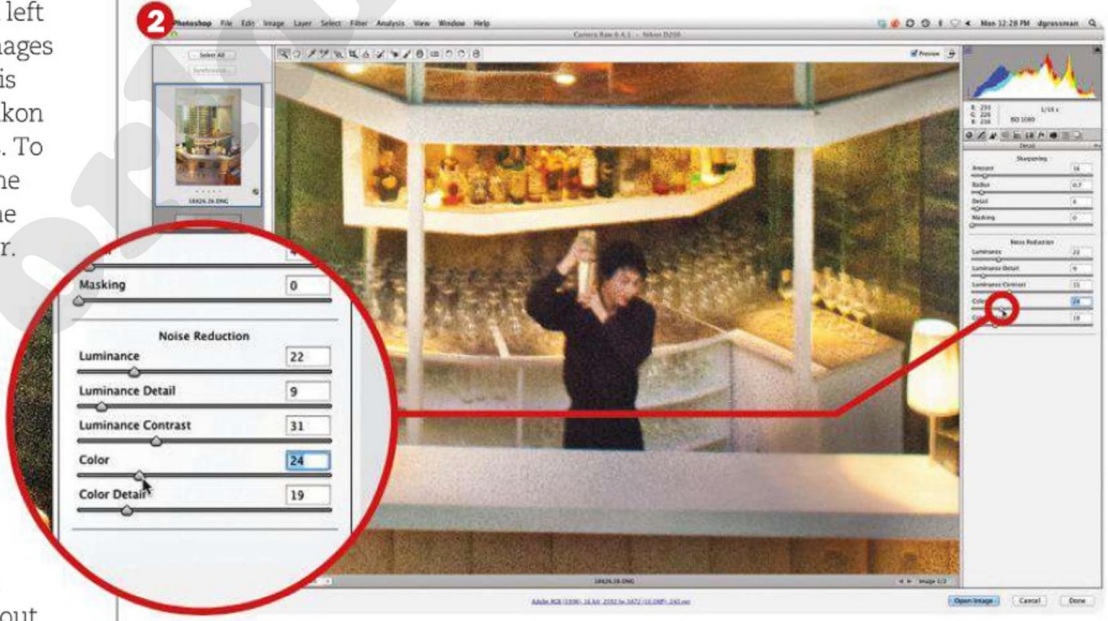
His solution? Make a composite. The picture at left is made up of multiple images Freeman captured with his Nikon D200 and an old Nikon 28mm f/3.5 PC (shift) lens. To solve the noise problem, he made two exposures of the section with the bartender. First, he set the D200 to ISO 100 and shot the empty bar in RAW with long-exposure noise reduction turned on. Then he shot the same setup, now with the bartender and a faster shutter speed, at ISO 1000. (Freeman urges you not to worry too much about noise on the figure, especially when it's such a small part of the scene.)

Here is how he combined the shots. *—Debbie Grossman*



Step 1

Open both images in Adobe Camera Raw. Even though your camera settings—with the exception of your ISO and shutter speed—will be the same in both shots, it is likely that your noisy image will have a different color cast than the low-ISO shots. **Use the white-balance sliders to make the color in both images match as closely as possible.** Then zoom in on the figure and adjust the contrast.



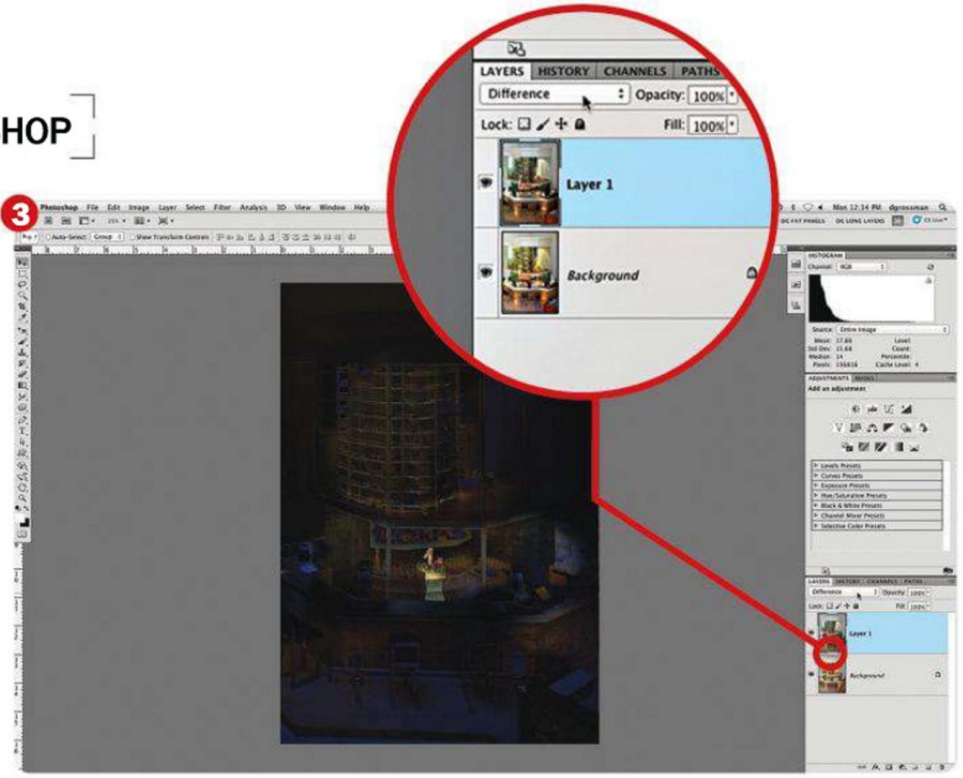
Step 2

Because you're combining a high-noise image with a low-noise one, noise reduction is necessary. Head over to the Detail tab. **Move the Color noise reduction to zero from its default 25, then bring it up until the noise just disappears.** Adjust the sliders to achieve a balance between grain and sharpness.

Workflow

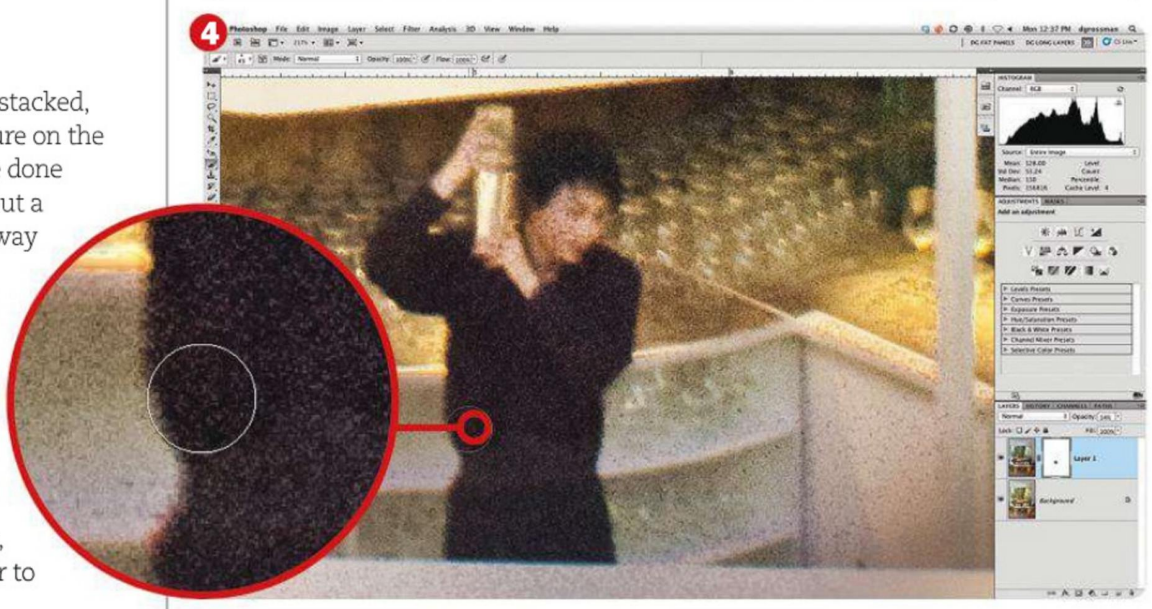
Step 3

Open both images in Photoshop and set the view so you can see them side by side. **Type V on your keyboard to select the Move tool, and drag the empty image on top of the one with the bartender.** Hold down the Shift key as you do this so that the centers of the images line up. To find out if they're in registration, turn the top layer on and off. If it needs further aligning, switch the top layer's blend mode to Difference. Use the arrow keys to nudge the images into alignment, then change the blend mode back to Normal.



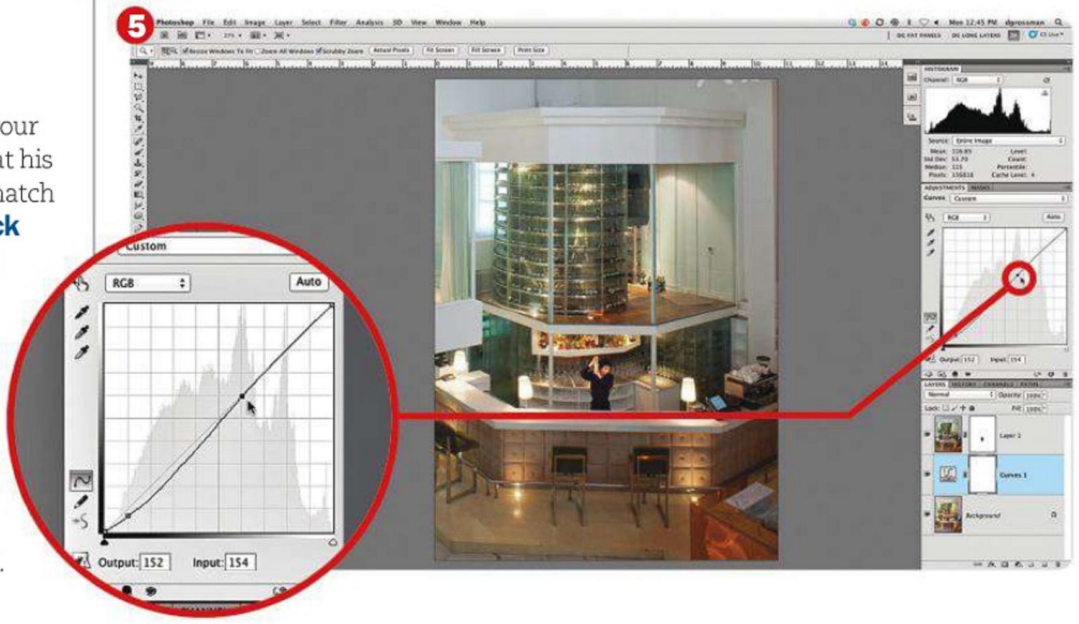
Step 4

Now that the images are stacked, we need to reveal the figure on the bottom layer. This can be done quickly with the Eraser, but a mask gives you more leeway if you make a mistake. **Click the mask button to add a mask to the top layer.** Lower the opacity of the top layer so you can see the figure below, then grab the brush tool, set your foreground color to black, and paint on the top layer to reveal him.

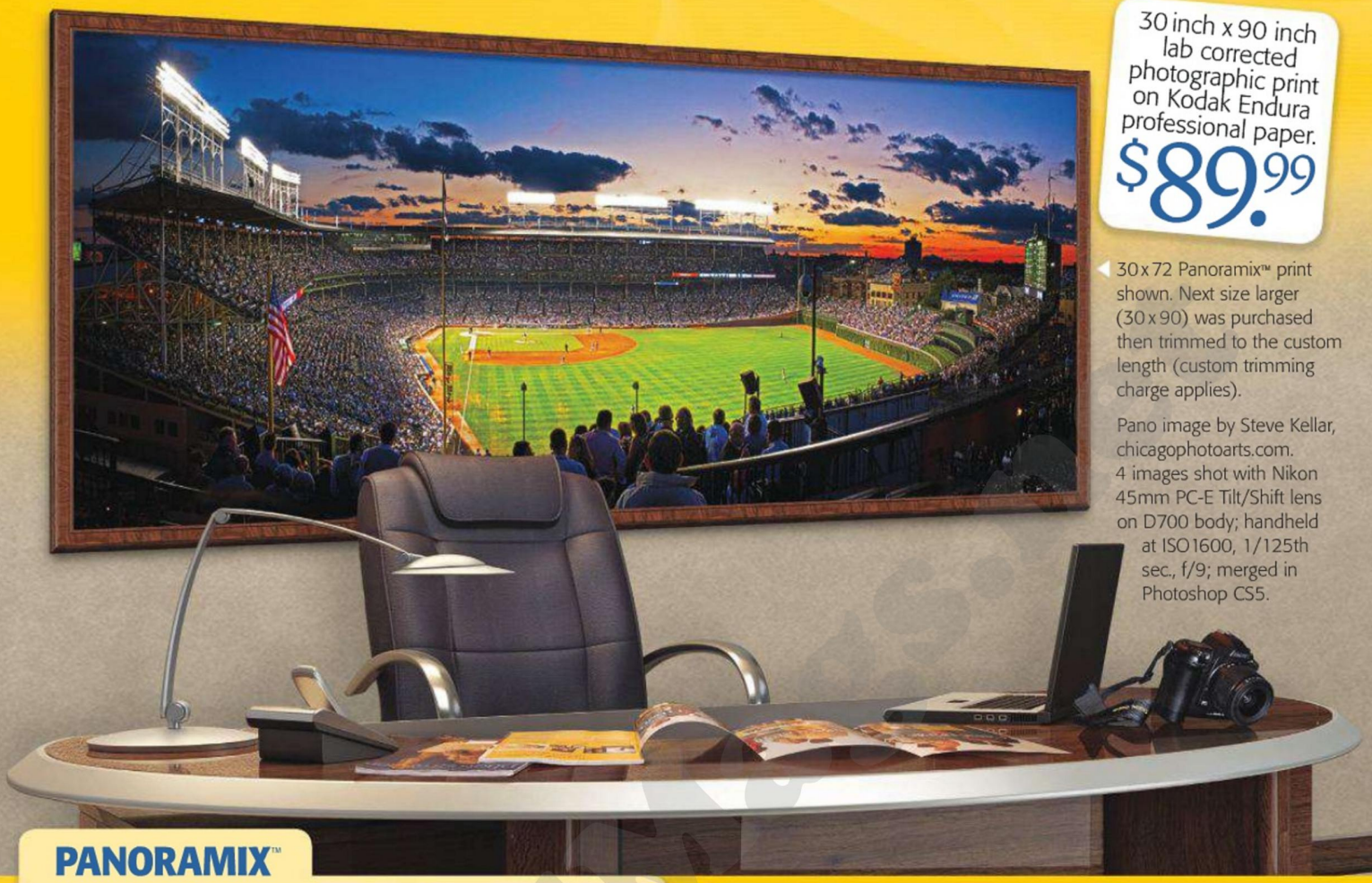


Final Step

Once you can see the figure in your composite, you might notice that his color and contrast don't quite match those of the low-ISO image. **Click on the bottom layer and add a Curves Adjustment Layer.** Since you made it while the bottom layer was selected, the adjustments will affect only the bottom layer. Use Curves to make any color and contrast changes necessary to ensure that the figure blends seamlessly into the background.



FOR THE PHOTOS YOU HIT OUT OF THE PARK



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30 x 72 Panoramix™ print shown. Next size larger (30 x 90) was purchased then trimmed to the custom length (custom trimming charge applies).

Pano image by Steve Kellar, chicagophotoarts.com. 4 images shot with Nikon 45mm PC-E Tilt/Shift lens on D700 body; handheld at ISO 1600, 1/125th sec., f/9; merged in Photoshop CS5.

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KARENA GOLDFINCH

Best Blur

With selective focus, it's all about softness

USING A wide aperture to throw foregrounds and backgrounds drastically out of focus to highlight a sharp subject—or just part of a sharp subject—is a common technique. It's called selective focus, and Karena Goldfinch of Melbourne, Australia, used it for this lovely toned floral study of a columbine blossom.

But as she can attest, throwing a background into a creamy state of defocus is only half the selective-focus battle. For the picture at left, Goldfinch paid just as much attention to the blurred background as she did the sharp subject.

In fact, the subject was the easy part: She composed her photograph following traditional Rule-of-Thirds guidelines. "Only part of the hero flower needs to be sharp, preferably the stamen. From there, the viewer's eye can wander off to other parts of the image," says Goldfinch.

Once she's placed her hero, the real challenge is working the camera angles to maximize the impact of her defocused background—as she did here. "I want the flowers in the background to be soft echoes of the main flower," she explains.

These need to be clearly visible and recognizable, not just defocused blobs. She wants them to stand demurely "like out-of-focus bridesmaids in a wedding portrait."

Equally important were the placement of defocused highlights and shadows in the background. Goldfinch selected her camera angle to place shadowed areas along the top and bottom of her picture, where they framed her subject and keep the viewer's eye from leaving the image. She positioned highlights toward the frame's center to hold the viewer's gaze.

In addition to carefully composing her defocused backgrounds, Goldfinch offers the following tips for better floral studies:

■ **Scout at ground level.** "When searching for flower studies, I try to get down low to the ground to find views that you don't normally see from a standing position," says Goldfinch.

■ **Look for flowers in shade.** "I liked the positioning of these columbines because they were in the shade of a large tree, but not so close to its trunk as to be in total shade. It gave me the ability to play with gently glowing background highlights on a lightly overcast day."

■ **Convert your image to black-and-white.** Rendering it in monochrome can act as a visually cohering force in your scene. Once she's made the conversion using an adjustment layer in Adobe Photoshop, Goldfinch likes to apply a red filter, which, as she says, "brightens the foliage nicely."

—Peter Kolonia

For this columbine, Goldfinch used a Nikon D700 (A), a 55mm f/2.8 Micro-Nikkor lens, a tripod, and a Manfrotto ballhead that's since been replaced by the 496RC2 (B). She fine-tuned the shot in Adobe Photoshop CS3 (C).

Step 1

Gather your gear. For selective focus of small flowers, your best chance of success is with a high-speed macro lens, a tripod with a reverse-mounting center column (for ground-level shooting), and a ballhead for quick and easy composition. Goldfinch also recommends using something like a foam gardener's pad to kneel on and a right-angle finder for ease of viewing.

Step 2

Wait for perfect conditions. The day should be lightly overcast and wind-free. Avoid working in direct sun or allowing strong sunlight to create harsh highlights and shadows in your backgrounds.

Step 3

Find your flower. "I often look for one strong, perfectly formed subject with a background that includes other flowers that reinforce or strengthen the composition," says Goldfinch.

Step 4

Compose for the background. For an effective background, you may need to pin other flowers or foliage out of the shot using gardening staples, or to carefully position defocused elements in your frame by propping or pushing flowers or foliage into position with sticks.

Final Step

Finesse in postprocessing. Goldfinch converted this image to black and white in Adobe Photoshop, and then gave a warmer tone to the midtones and highlights for a softer look.

Working Sample

© Michael Bagley

Pristine coastline and crystalline water scenery await in Annapolis, Maryland, a great American city poised on the lapping shores of the Chesapeake Bay. Prepare to capture the coast and all the surprises it has to offer: colonial architecture at its best, abundant wildlife and unspoiled preserves. With Nikon professional photographers Mark Alberhasky and Corey Rich at your side, you will discover in-depth techniques, whether your lens is turned toward a passing schooner or waterfowl sailing the open sky. This is an experience you don't want to miss!

Your trek through this sailing capital wouldn't be complete without a ride at sea. Glide through the heart of the bay as your ship's sails fill with wind. Shooting on the open sea presents challenges that your mentors will help you overcome, whether it's framing seaworthy silhouettes against the downtown skyline or snapping shot after shot of the graceful vessels racing by.

Much more is in store ashore, as you travel the cobblestone streets of one of the nation's earliest cities. Annapolis is alive with history. Fix your camera on the red brick Georgian mansions that dot the historic district, or turn your eye to the horse-drawn carriages that still clop along the thoroughfare. Detail matters here, and your mentors will teach you how to compose focused images that tell the capital's story.

At Sandy Point State Park, broaden your view and take panoramic images of the Bay Bridge. The sunset gives you a chance to hone your skills with shadow and light, whether you are taking pictures of the massive span of steel and wire across the watery expanse or the outline of a fisherman at the shore casting his line. Don't miss the Thomas Point Shoal Lighthouse, one of only ten such structures listed as a National Historic Landmark. The hexagonal beacon hovers over the water on cast-iron pillars like a crab over the sand. Any angle you take will speak volumes of Annapolis's deep maritime history.

The natural landscape at the Eastern Neck Wildlife Refuge will give your portfolio dimension. Foot trails and boardwalks lead to native wildflowers and butterflies. Have your camera ready to capture the rare site of a skulk of red foxes or a bald eagle gliding over the Eastern Shore.

If you are looking for a place to expand your knowledge of photography and hone your skills, look no further than the Mentor Series trek to Annapolis!

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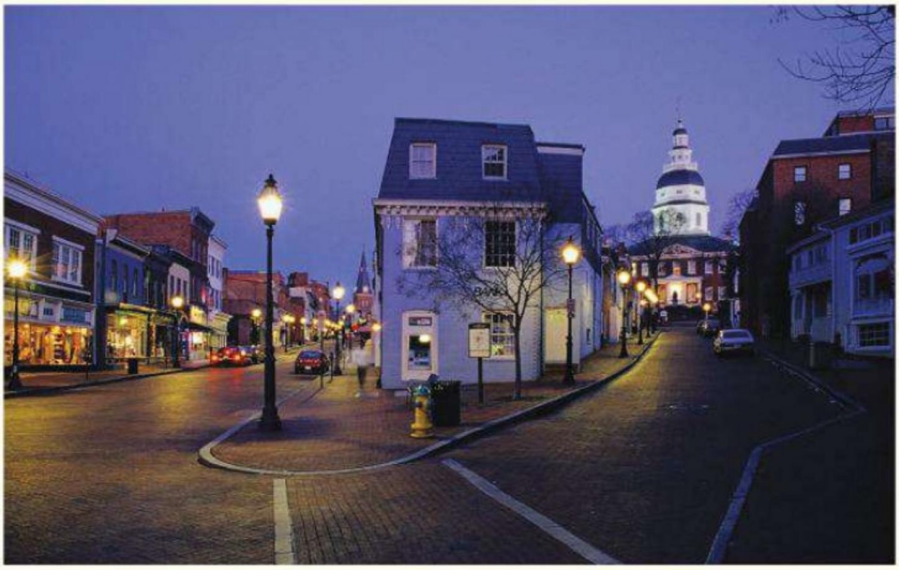

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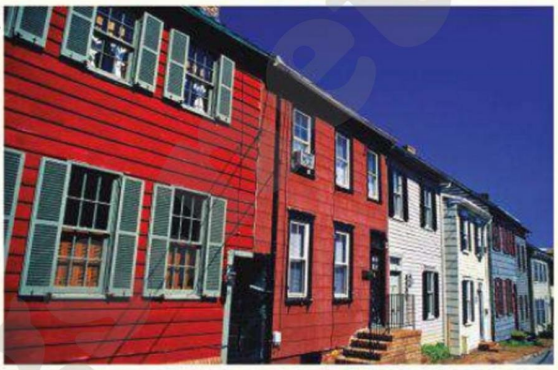

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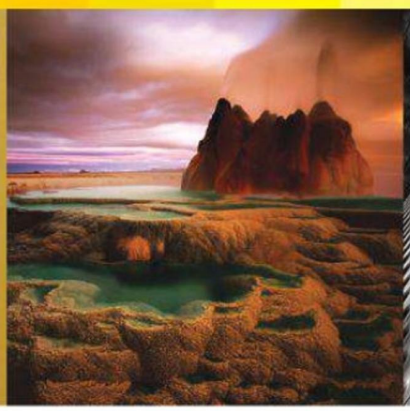
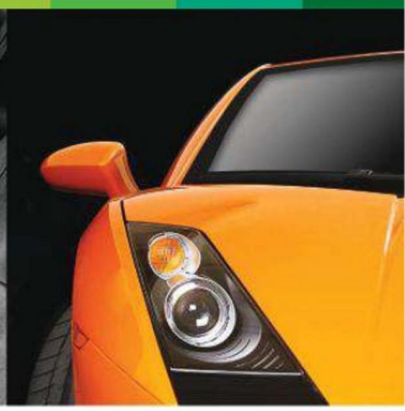




The 18th Annual Readers' PHOTO CONTEST

YEAR AFTER YEAR, our biggest contest proves that great photos can come from anywhere and be made by anyone. This year, our winners' locations were as diverse as their techniques, from Florentine snapshots to large-format landscapes of Nevada's Black Rock Desert. And despite their varied backgrounds and professions, all had this in common: For at least one moment, they captured something beautiful. Take a look at the best that our readers shared in 2011. *By Matthew Ismael Ruiz*

ACTION/SPORTS

ANIMALS

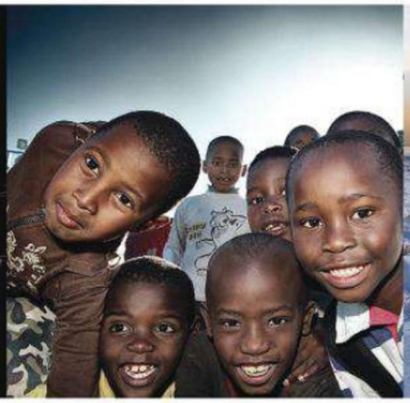
CITIES/ARCHITECTURE

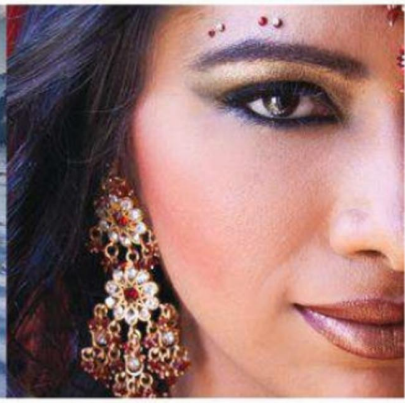
LANDSCAPE/NATURE

OBJECTS

PEOPLE

READERS' CHOICE





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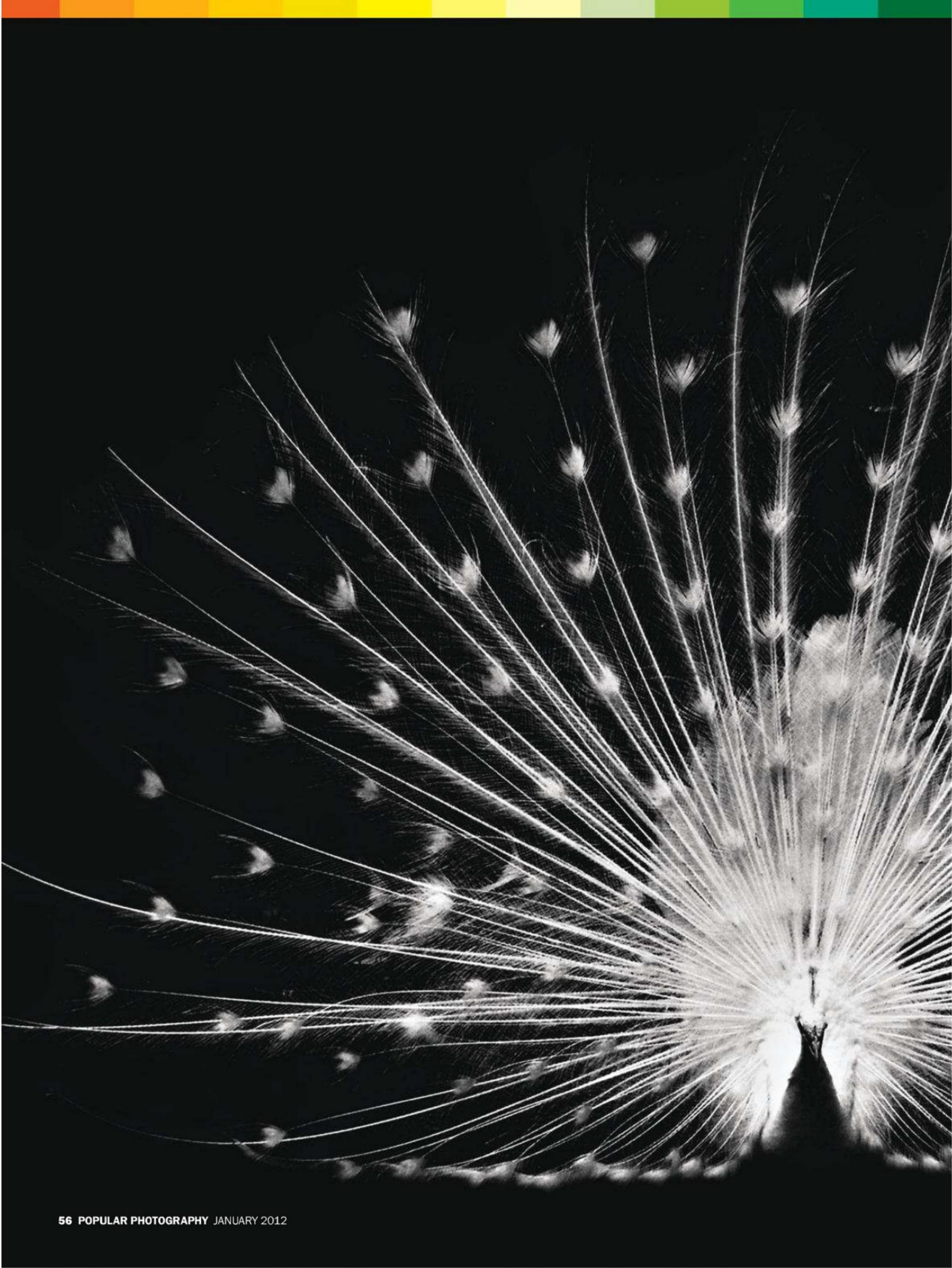
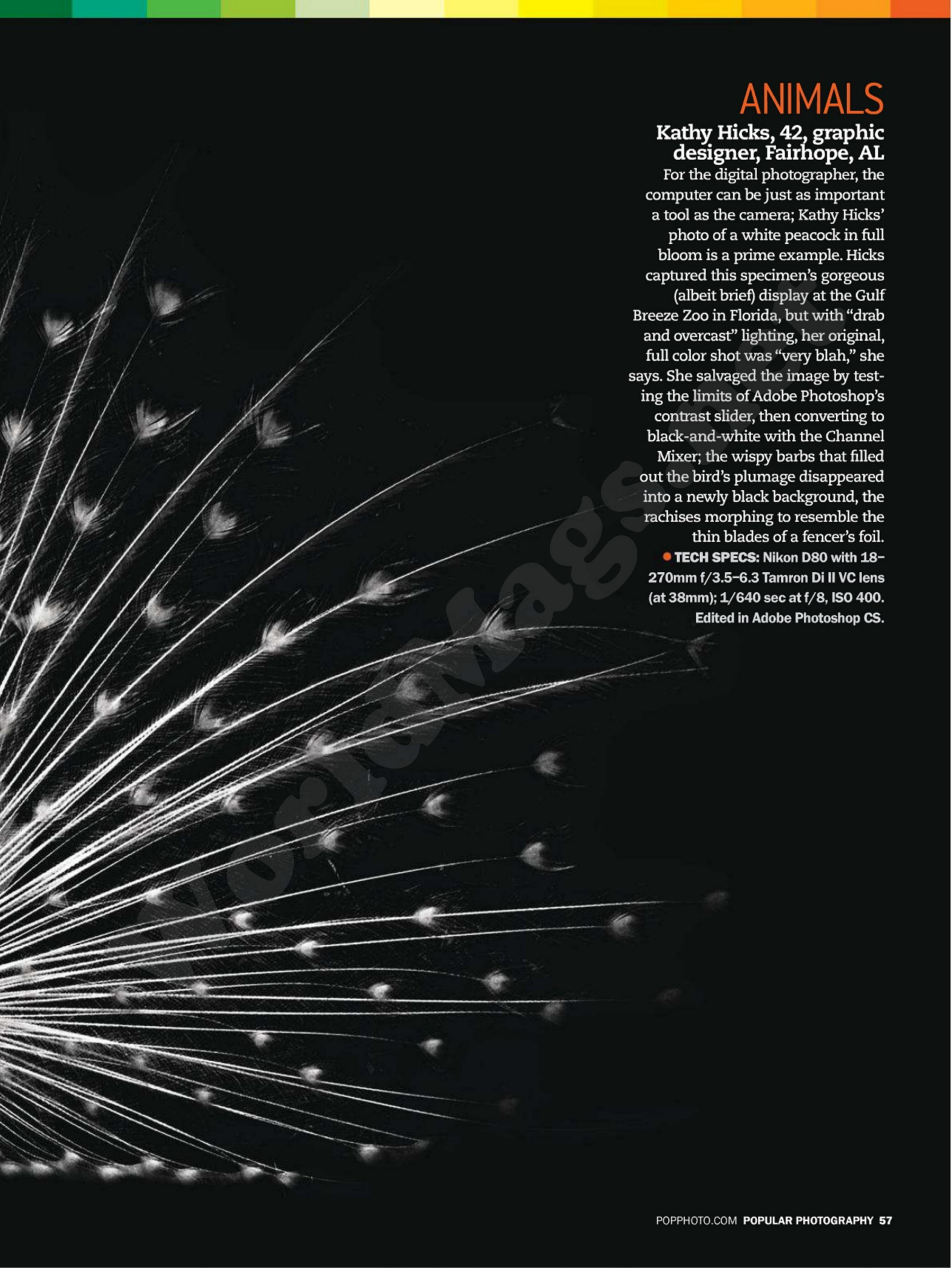




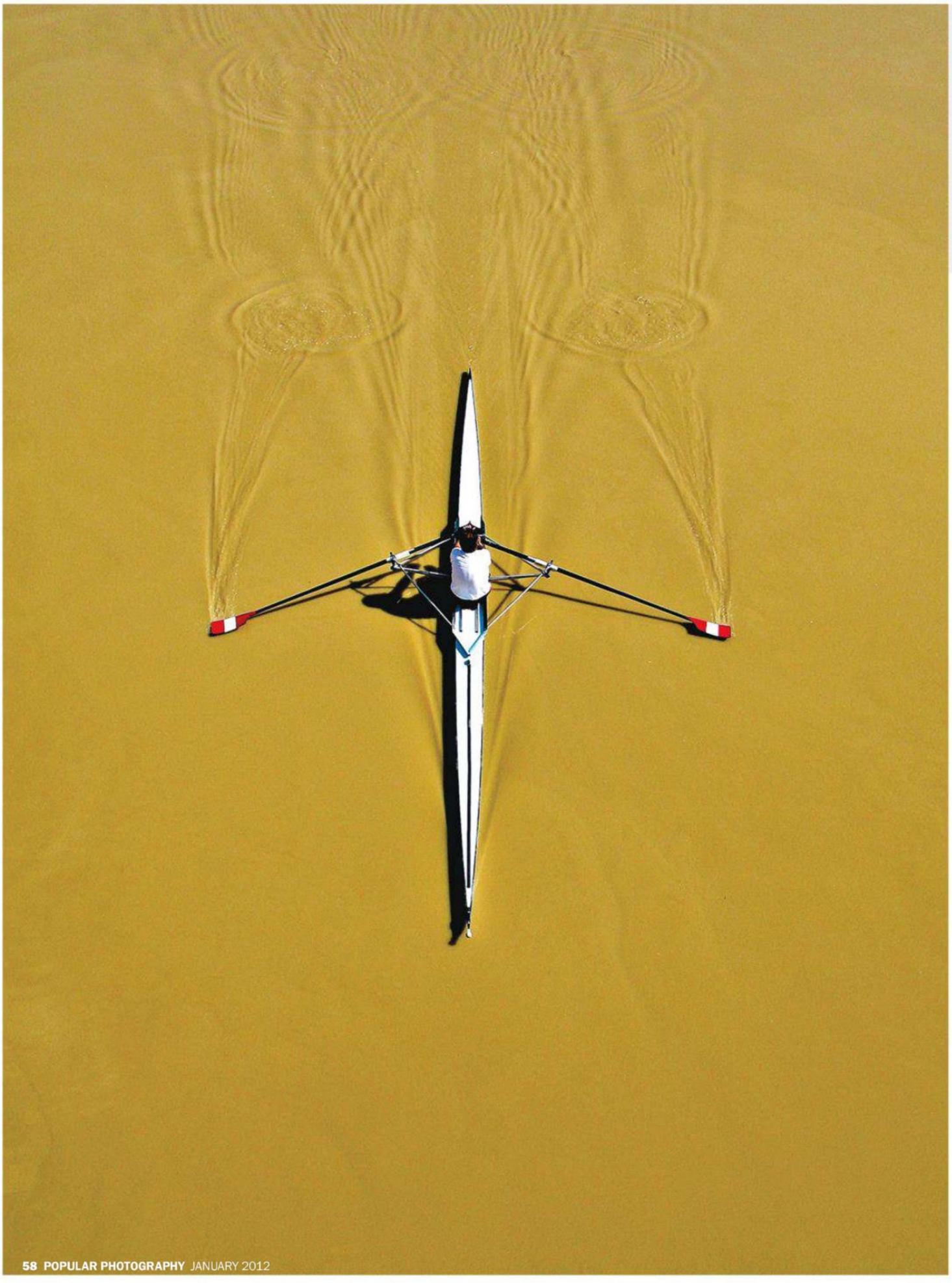
ANIMALS

Kathy Hicks, 42, graphic designer, Fairhope, AL

For the digital photographer, the computer can be just as important a tool as the camera; Kathy Hicks' photo of a white peacock in full bloom is a prime example. Hicks captured this specimen's gorgeous (albeit brief) display at the Gulf Breeze Zoo in Florida, but with "drab and overcast" lighting, her original, full color shot was "very blah," she says. She salvaged the image by testing the limits of Adobe Photoshop's contrast slider, then converting to black-and-white with the Channel Mixer; the wispy barbs that filled out the bird's plumage disappeared into a newly black background, the rachises morphing to resemble the thin blades of a fencer's foil.

TECH SPECS: Nikon D80 with 18–270mm f/3.5–6.3 Tamron Di II VC lens (at 38mm); 1/640 sec at f/8, ISO 400. Edited in Adobe Photoshop CS.

Popular Photography

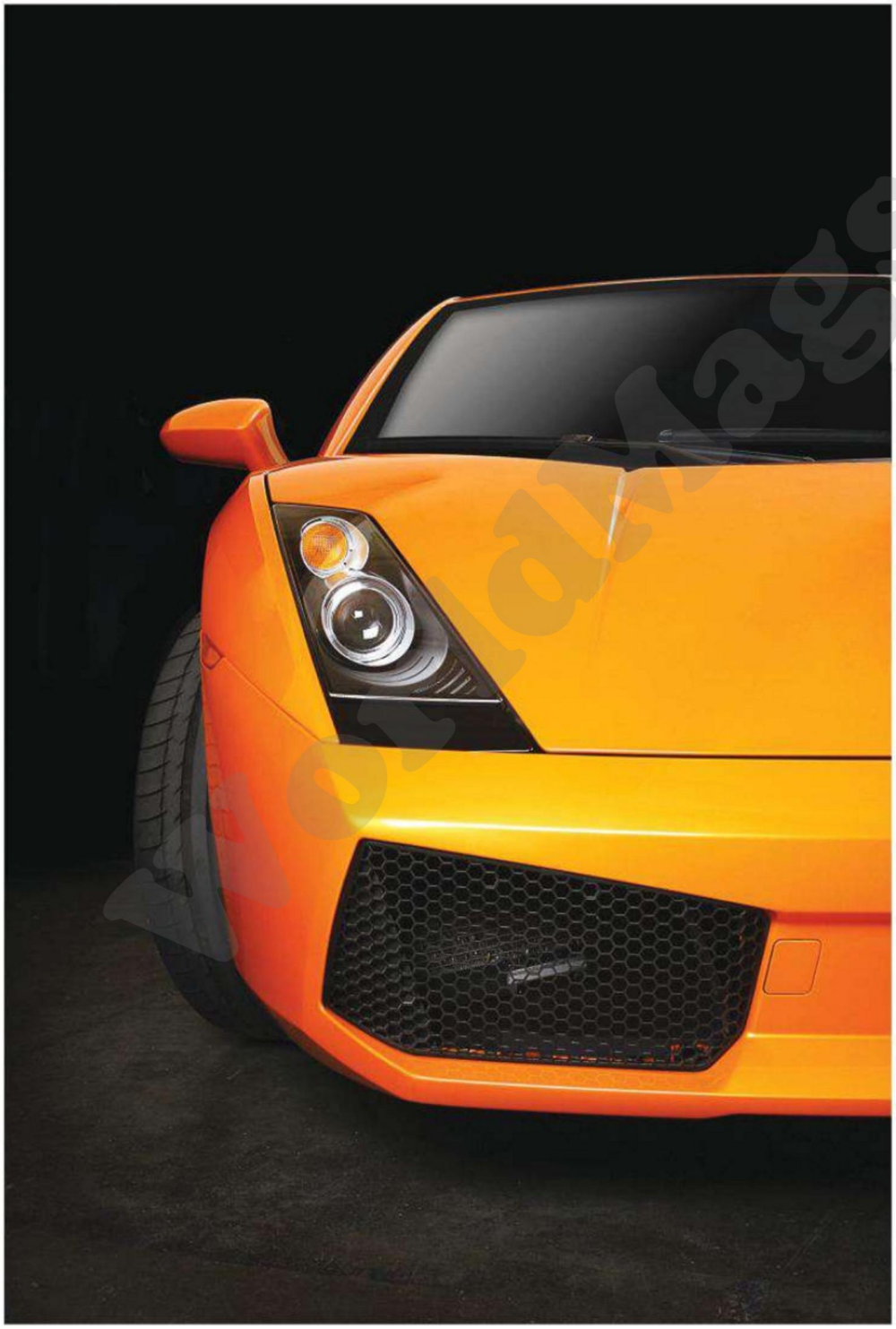


ACTION/SPORTS

Suzy Burleson, 69, president of Letters Inc., Houston, TX

Returning to her hotel in Florence, Italy, Suzy Burleson noticed that recent rains had transformed the Arno River into a "muddy torrent." As she crossed it on a footbridge, she sagely noted that the river's new color "was ideal to show every swirl and eddy as each paddle slipped into the water." Her composition deftly frames the still water, the blade-shaped single scull, and its Rorschach-Test wake. Despite having a DSLR in her bag, she had less than 30 seconds before the oarsmen disappeared, so instead she reached for the compact camera she had hanging from her neck.

● **TECH SPECS:** **Canon PowerShot G9 (at 35mm equivalent); exposure, 1/1000 sec at f/4, ISO 80. Sharpening in Adobe Photoshop CS5.**



OBJECTS

Erich Chen, 26, photographer, Los Angeles, CA

Inspired by "the flashy car photos I always see in magazines," Erich Chen admits he had only "a little experience in photographing cars, and only outdoors; this was my first indoor car shoot." Without a professional automotive studio, he found himself struggling to light every crease and corner of this highly photogenic 2004 Lamborghini Gallardo. Using an assortment of lights, flags, PocketWizard wireless remote triggers, and "pretty much everything we had," Chen and his team managed this anthropomorphic portrait of the bright-eyed Italian beauty.

● **TECH SPECS:** **Canon EOS 5D Mark II with 50mm f/2.5 Canon EF Compact Macro; 1/160 sec at f/10, ISO 100. Lighting by AlienBees, Hensel, and Paul C. Buff White Lightning. Color, saturation and sharpening adjusted in Adobe Photoshop CS3.**

Vintagas.net

LANDSCAPE/NATURE

Darwin Wiggett, 50, photographer, Cochrane, Alberta

"Abraham Lake in the Bighorn Wildlands, Alberta, has wonderful ice and snow formations in the winter," Darwin Wiggett says. "The light can be spectacular, but this was the first time in eight years that I saw a mountain casting its own shadow onto the clouds." While the mountainous shadow created by the hidden sun is certainly dramatic, it's the incredible detail in his composition that completes this image. His landscape has near-perfect saturation levels, and each blade of grass in the foreground is as sharp as the peak's infinite crags. No wonder he frequently contributes photos and tips to this magazine.

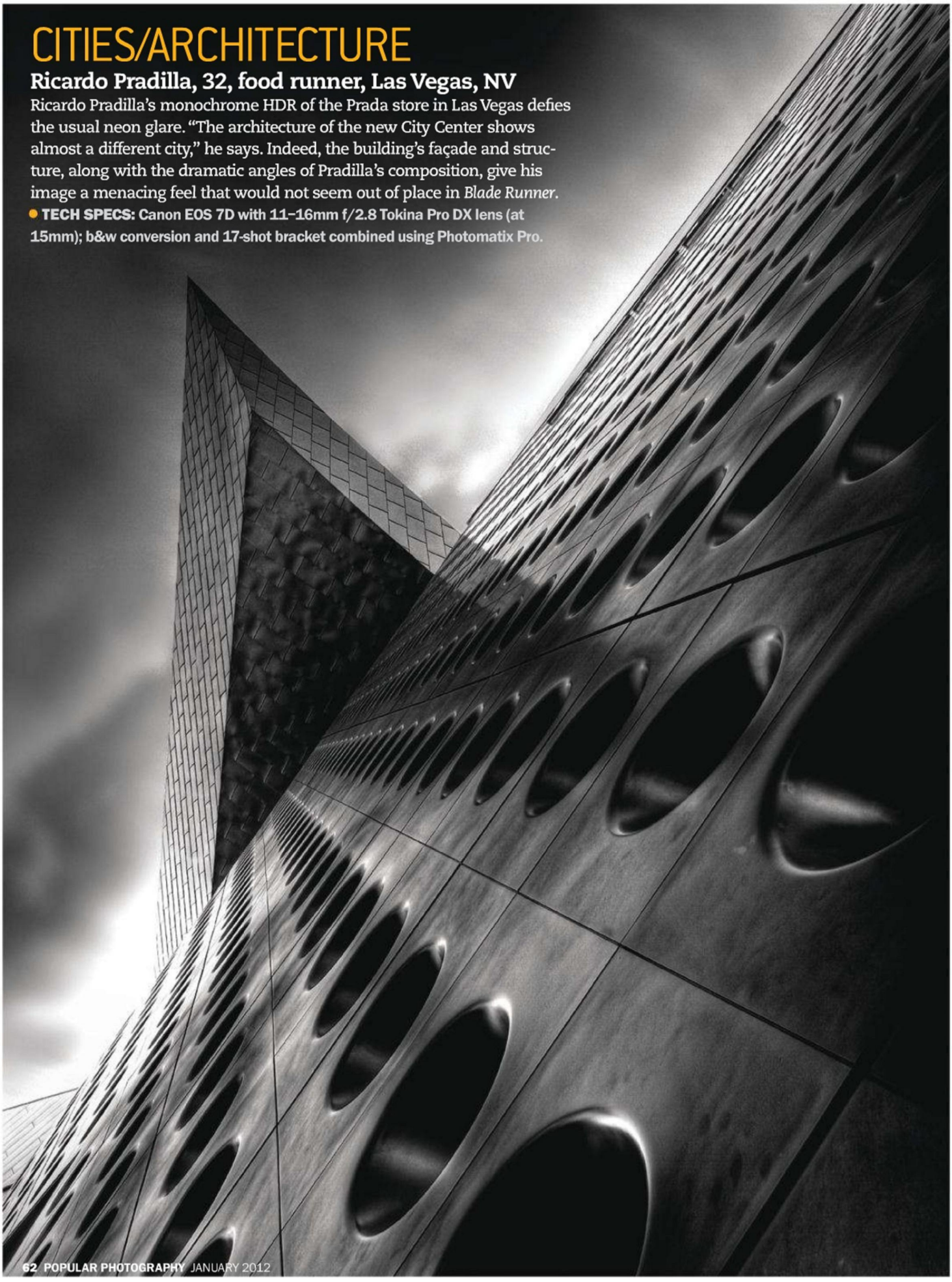
TECH SPECS: Canon EOS-1Ds Mark III with 17mm f/4L Canon TS-E; 1/320 sec at f/11, ISO 100. Contrast and clarity adjusted in Adobe Camera RAW, bracketed exposures combined in Adobe Photoshop CS5.

CITIES/ARCHITECTURE

Ricardo Pradilla, 32, food runner, Las Vegas, NV

Ricardo Pradilla's monochrome HDR of the Prada store in Las Vegas defies the usual neon glare. "The architecture of the new City Center shows almost a different city," he says. Indeed, the building's façade and structure, along with the dramatic angles of Pradilla's composition, give his image a menacing feel that would not seem out of place in *Blade Runner*.

TECH SPECS: Canon EOS 7D with 11–16mm f/2.8 Tokina Pro DX lens (at 15mm); b&w conversion and 17-shot bracket combined using Photomatix Pro.

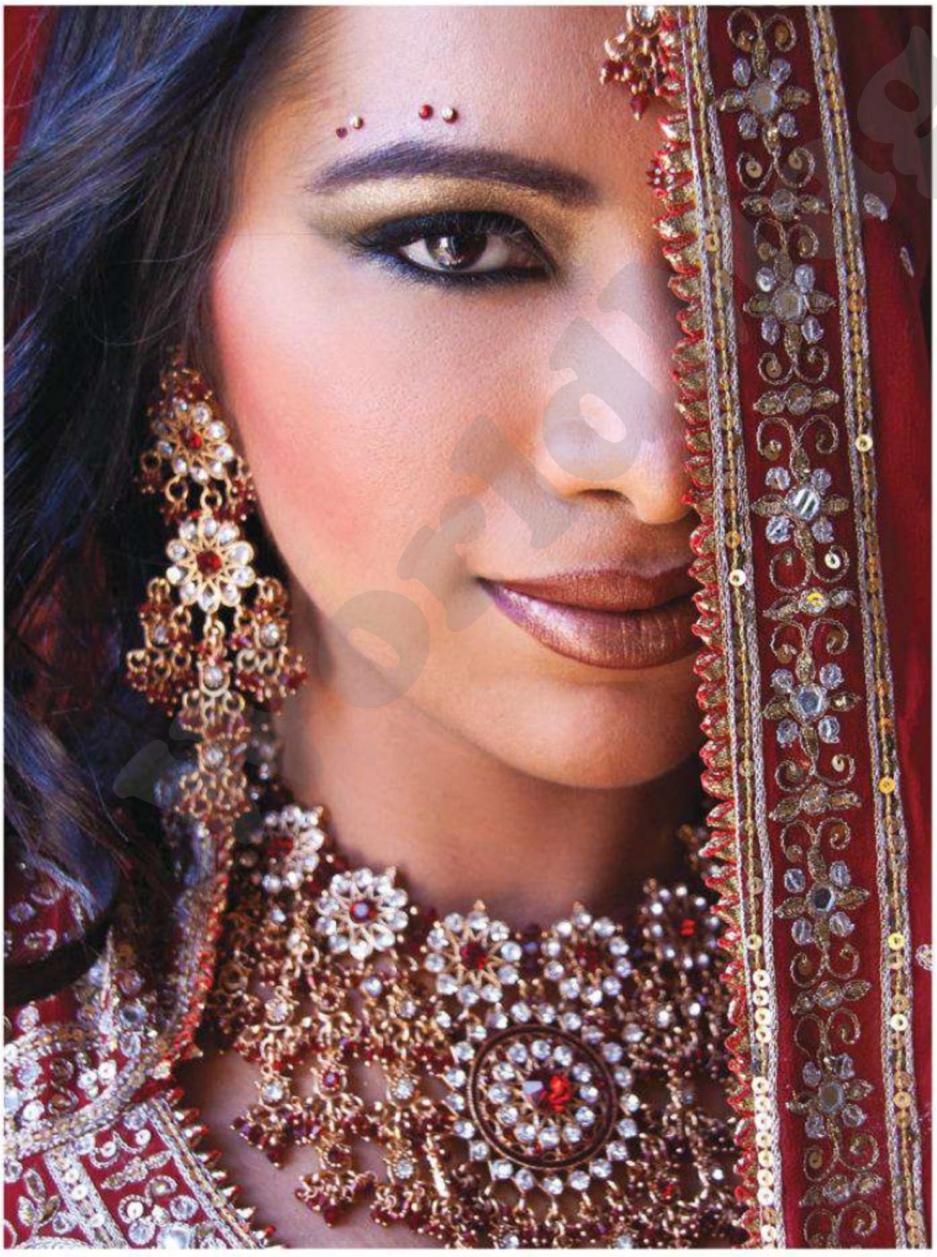


PEOPLE

Ricardo Mejia, 44, graphic designer, Weston, FL

Travelling through the outskirts of Cape Town, South Africa, during the 2010 World Cup, Ricardo Mejia stumbled upon a local soccer game. While he was on the ground photographing a pair of young spectators, this sea of smiling faces swirled around him. The low angle adds intimacy and helps the children's personalities shine through.

• TECH SPECS: Nikon D300 with 14–24mm f/2.8 Nikkor lens (at 14mm) and Nikon SB-800 Speedlight; 1/400 sec at f/4.5, ISO 200. Edits in Apple Aperture 3.



READERS' CHOICE

Tamiz U. Rezvi, 26, underwriting analyst, Brooklyn, NY

According to the photographer, the "colors, culture, and emotion" of an Indian wedding inspired this demure portrait of a bride hiding behind an elaborately decorated shawl—selected by visitors to PopPhoto.com as their favorite photo in our contest. Tamiz U. Rezvi used the many windows in the Valley Stream, NY, home of the bride's makeup artist to his advantage, even utilizing a sliding glass door as a diffuser. The intricate patterns in the jewelry, dress, and shawl juxtaposed with the smooth, clean lines of the bride's expertly painted face culminate in an image Rezvi considered "perfect on the first click. It was one of those rare occasions when the image comes out just as I pictured it in my mind," he says.

• TECH SPECS: Canon EOS Rebel XS with Sigma 18–200mm f/3.5–6.3 DC lens (at 35mm); 1/80 sec at f/5.6, ISO 400. Crop, white balance and color adjustments in Adobe Lightroom 3; retouches in Photoshop CS5.

GRAND PRIZE WINNER

Rodney Lough Jr., 51, photographer, Happy Valley, OR

Sometimes bigger really is better. Rodney Lough Jr. used a collapsible, large-format (8x10) view camera to capture this stunning vista of spraying geysers at a hot spring in the Black Rock Desert, Nevada. An extremely small aperture and long exposure on Fujichrome Astia 100F transparency film rendered the twilight scene with incredible detail and depth of field. But to hear him tell it, the photo practically took itself: "It's not hard to be inspired by what you're looking at. I capture it the way I see it, so others who would never see this in real life are able to enjoy it forever."

TECH SPECS: Arca-Swiss 8x10 F-Line view camera with 150mm f/5.6 XL Schneider Super-Symmar lens; 16 sec at f/64 on 100F Fujichrome Astia Professional film.

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Rewriting the Rules

We were wondering when an interchangeable-lens compact would fully meet our expectations for this still-new class of camera. That day arrived with the release of the Sony NEX-7. Here's why we've named it our 2011 Camera of the Year, our award for *the model that best refined or redefined photography* this year. *By Dan Richards*

CAMERA MAKERS customarily follow a set sequence during product introduction sessions: The big gun comes out first, followed by cameras lower in the line, followed by lenses, then accessories, usually ending with branded cases and the like.

But there was something about the Cheshire Cat grin worn by Mark Weir, Sony's senior manager of technology, that told us that this time the last piece out of the sack would be more than a new neckstrap.

It was the Sony NEX-7. We knew right away that this was something special just from the looks of it—from the solid, metal-clad body, to the substantial, ergonomic grip, to the numerous control dials and buttons. And a rectangle on the back that looked suspiciously like a rangefinder eyepiece.

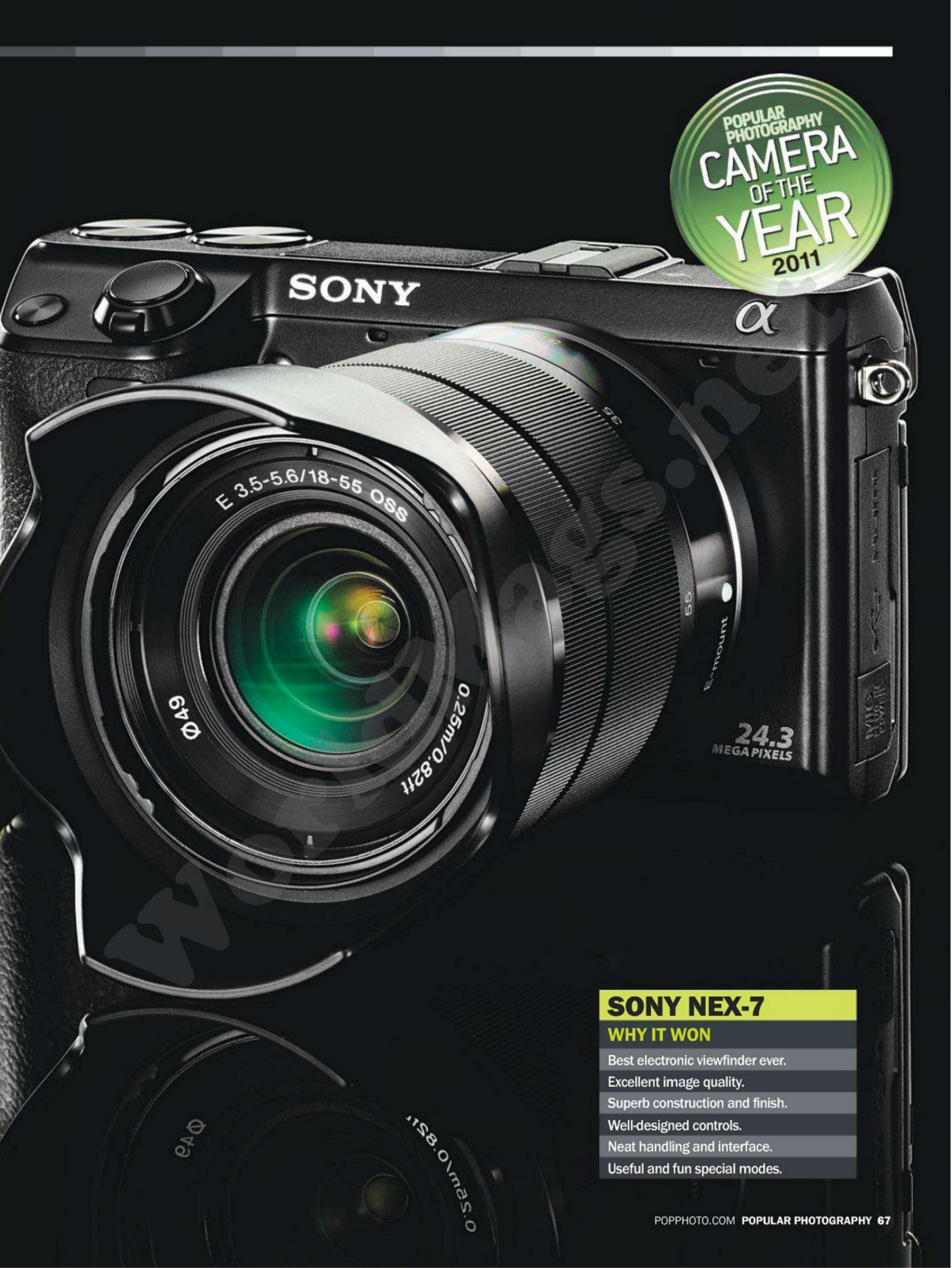
Then came the specs: A 24.3MP CMOS APS-C sensor, the same type used in the Alpha 77. A tilting, 3-inch 921,600-dot LCD screen. 1920x1080p60 HD video capture. Plus the usual Sony bag of tricks, like Sweep Panorama and Handheld Twilight modes.

But the true game-changer was that viewfinder. It turns out that the eyepiece houses the same OLED electronic viewfinder used in the A77, making the NEX-7 the first rangefinder-style ILC with an integral, through-the-lens EVF. And, as you may recall from our test reports on both this camera (December 2011) and the A77 (November 2011), it's a doozy of a finder—fine-grained, crystal clear, with very fast redraw.

Some perspective: When ILCs first hit the scene, they were more exciting for their potential than for the reality—the first Sony NEX models were no exceptions. Sure, in the past three years we've seen innovative designs and very fine imaging performance in many of these cameras, but there always seemed to be drawbacks.

One of the biggest issues has been the viewfinder. For ILCs to have comparable utility to DSLRs, they need eye-level viewing in addition to the LCD

SATOSHI



SONY NEX-7

WHY IT WON

- Best electronic viewfinder ever.
- Excellent image quality.
- Superb construction and finish.
- Well-designed controls.
- Neat handling and interface.
- Useful and fun special modes.

screen. But rangefinder-style ILCs up until now have not been designed with integral viewfinders; for eye-level viewing, you need to slap on an accessory optical or electronic finder. True, the DSLR-style ILCs—the type pioneered by Panasonic—have integral EVFs, but these are bulkier than rangefinder-style models, and their EVFs have been of average quality. In particular, they are poor for following action or panning.

That's where Sony stepped in with a piece of new EVF technology, the organic light-emitting diode (OLED). These devices provide better color and contrast than LCDs, as well as wider viewing angles. Plus, they use less battery power. With the NEX-7 and A77, Sony becomes the first manufacturer to use this type of screen in a viewfinder rather than for the back monitor.

It helps that the Sony EVF has lots of dots—more than 2.4 million. And in an OLED, each dot provides red, green, and blue information, as opposed to LCDs, in which each dot produces only a single color. It makes for clarity and smoothness in the viewfinder image, which can be mistaken for a good optical viewfinder. The illusion continues when you pan the camera; the image slides across the frame smoothly.

To be named Camera of the Year, a model has to refine or redefine photography—and the NEX-7 does both, plus a lot more. It proved a top performer in the Popular Photography Test Lab and in the field.

With Excellent resolution (2740 lines), impressive noise suppression (Low or better noise through ISO 1600), and Excellent color accuracy, the NEX-7 aced our lab tests for an Excellent overall image quality rating.

In the field, our testers took home many crisp and colorful images, and raved about the handling and controls of the camera. You know how we're always grumping about cameras with only one command wheel instead of two? Well, the NEX-7 has three. If this sounds confusing, it isn't, as Sony assigns control functions according to a logical tree. For example, in aperture-priority autoexposure, the two top dials control f-stop and exposure compensation, while the lower dial sets ISO. As you make these adjustments, all settings can be seen in the viewfinder as well as on the LCD.

The camera is full of nice touches. Enthusiasts will appreciate the Sony/Minolta-type hotshoe, in which you can

CONTINUES ON PAGE 106

Shown from above without a lens, the slim NEX-7 sports physical controls to let you keep your eye to its extra-ordinary finder.

PHILIP RYAN (LCD IMAGE)

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THE EDGE

SPLIT ROCK, RIALTO BEACH, OLYMPIC NATIONAL PARK, WA
Ian Plant's 2-minute exposure at twilight transformed water and clouds into eerie mist. He shot with a Canon EOS 5D Mark II with 24–105mm f/4L Canon EF lens at f/11, ISO 100. A tripod was used for all shots.

OF LIGHT

Light may be the stuff of which photography is made, but it does not follow that more light is better. You'll often find low- and partial-light conditions to be where the best photographs—especially of landscapes and nature—are created.

Text and photos by Ian Plant

WHILE REWARDING, working with limited light presents many challenges, especially for digital photographers. Low-angled directional light can easily fool camera meters, and low light and long exposures can push the limits of batteries and camera sensors. Here are some field procedures and artistic techniques I've learned to rely on during my years photographing "on the edge."

Juxtaposition of Shadow and Light

For subjects that are only partially lit, this method can be very powerful when handled correctly.

A subject standing in direct light against a background that's in shadow, for example, will appear in sharp relief to its surroundings. Alternating areas of shadow and light create texture and depth, helping preserve a three-dimensional look in your photographs.

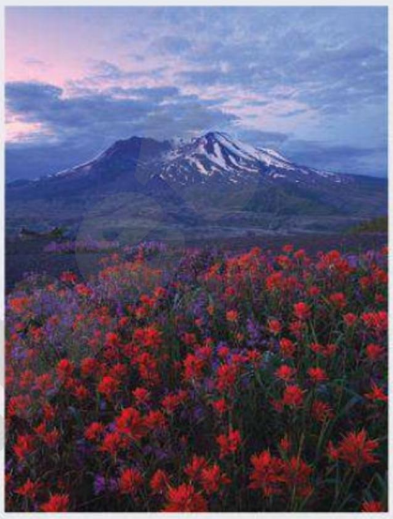
You can simplify your composition by placing potentially distracting elements in shadow, making them essentially invisible and focusing attention on your subject. Borders between shadow and light can also create interesting patterns and shapes.

Although juxtapositions often work best at sunrise and sunset (when the light is warm and colorful), you can make powerful images using this technique at any time of day.

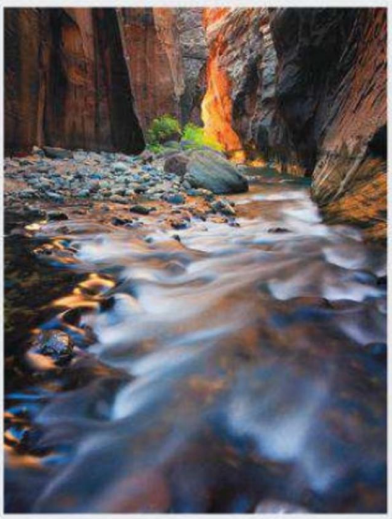
Backlight

Backlighting creates deep shadows, providing texture to an image that might otherwise appear flat in standard light. When they're backlit, the edges of translucent subjects such as wildflowers or feathers appear to glow. This light is particularly effective at sunrise and sunset, when it takes on a strong golden or reddish color. Look to juxtapose your backlit subject against a dark, shadowed background to maximize contrast in the image and to create dramatic lighting.

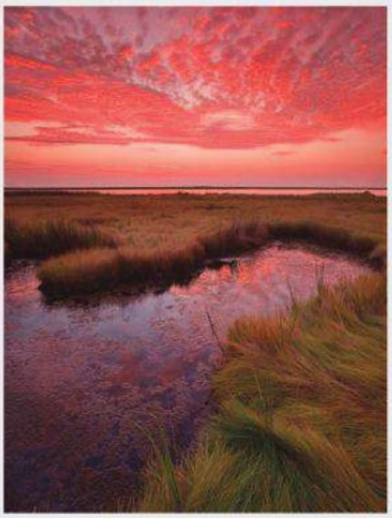
In many ways, backlighting is the hardest to work with. Flare presents a significant challenge, especially when you include the sun in the frame. This can cause a general loss of contrast, as well as unsightly hexagons and blobs. To mitigate flare, shade your lens to prevent direct sunlight from falling on the front element—block it with a lens hood; in a pinch, use your hand.



LOOWIT OVERLOOK MT. SAINT HELENS NATIONAL MONUMENT, WA
Twilight captured with the 5D Mark II and converted 14–24mm f/2.8G ED AF-S Nikkor; 1.6 sec at f/16, ISO 500.



THE NARROWS, ZION NATIONAL PARK, UT
Same gear as above; 8 sec at f/16, ISO 200.



CHESAPEAKE BAY, MD
Tidal pool shot with the 5D Mark II and 17–40mm f/4L Canon EF lens; 6 sec at f/16, ISO 400.

Workbook

SOL DUC VALLEY, OLYMPIC NATIONAL PARK, WA
A canopy of mossy trees turns the light weirdly green. Plant used his converted 14–24mm f/2.8G ED AF-S Nikkor on his Canon EOS 5D Mark II for an exposure of 0.8 sec at f/14, ISO 400.

Of course, when you want to include the sun in your image, it will be impossible to keep light from striking your lens. Here, the best you can do is to partially block the sun using the edge of a tree, mountain, cloud, or some other natural feature. Even partially blocking the sun can help reduce flare to a manageable amount. And remember that a number of digital darkroom techniques, such as Content Aware Fill in Adobe Photoshop CS5, can help eliminate flare when you process your images.

Another technical challenge of backlight is that the extreme contrast between highlight and shadow can fool your camera's meter, resulting in over- or underexposure. Critically check exposure by reviewing each image on your camera's LCD and consulting the histogram. Alternatively, if your camera supports live view with exposure simulation, you can check your exposure before triggering the shutter.

If your camera has the highlight overexposure warning sometimes called "the blinkies," use it to ensure you don't have any significant overexposed highlights.

Occasionally, the contrast range of your scene will exceed the dynamic range of your camera's sensor. You may be unable to avoid overexposure of the fringe areas of a backlit subject (such as the feathers on a bird), which may be acceptable as long as the overexposed areas are not unduly large or crucial parts of the image.

If you cannot manage to retain detail in the shadow

CONTINUES ON PAGE 112

Tokina

TOUCH THE TIMELESS IN THE MOMENT

THE NEW TOKINA AT-X 17-35MM F/4 LENS is the latest in a generation of full-frame (FX) lenses designed to meet the exacting performance standards of professional digital SLR cameras from Nikon and Canon, and the discriminating photographers who use them. Its 17-35mm zoom range provides a spectacular 103.96-degree coverage at the ultra-wide end, and its constant f/4.0 maximum aperture facilitates viewing and autofocus in low light while maintaining a reasonable size and weight. In addition to delivering unsurpassed image quality, this lens focuses down to 11 inches for dramatic close-ups and is great for shooting in tight spaces or for taking in wide expanses. It's the perfect lens for pros and serious shooters whose mission is capturing life's decisive moments on the fly.

ASPERICAL AND SUPER-LOW DISPERSION GLASS ELEMENTS

A proprietary optical design incorporating two super-low dispersion glass elements and one aspheric element, this advanced construction yields excellent contrast and exemplary sharpness across the entire imaging field at all focal lengths as well as outstanding correction for chromatic aberration. Its performance under challenging lighting conditions is further enhanced by the use of efficient multi-coating.

EXCLUSIVE ONE-TOUCH FOCUS CLUTCH MECHANISM

The exclusive One-Touch Focus Clutch Mechanism built into the Tokina AT-X 17-35mm f/4 allows the photographer to switch between autofocus (AF) and manual focus (MF) by simply snapping the focus ring forward for AF and pulling it back toward the lens mount for MF. There is no need to adjust the AF/MF switch on the camera body.

RUGGED, WEATHER-RESISTANT* CONSTRUCTION

The mechanical design of this lens has been enhanced with improved seals around the moving parts, making it more water-resistant than lenses of the past, and it is ruggedly constructed to withstand the rigors of professional use even in challenging environments.

13 ELEMENTS IN 12 GROUPS

- .28-meter minimum focus distance
- 103.96-64.74-degree angle of view
- 1:4.82 reproduction ratio, internal focus
- Rotary zoom mechanism
- 9 aperture blades

*Note: The AT-X 17-35mm is not waterproof and not designed to be submerged or used unprotected in heavy rain.

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Photo by: Brett Kennedy

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ILC TEST

QUITE A CAMERA

Pentax's tiny ILC is adorable, but more than just a toy

WHEN WE saw the first mirrorless interchangeable-lens compact cameras just a few years ago, it was clear that the main reason the mirror went away was to allow for smaller cameras and lenses. And while the first models to hit the market were indeed smaller than DSLRs, none were truly pocketable—at least not with a lens attached.

But Pentax's Q ($800, street, with kit lens) is smaller than any ILC we've held. It is so little that some people think it is a toy at first glance. But with a 12.4MP sensor—albeit a small 6.17x4.55mm one—and all the controls you'd expect from an entry-level DSLR, the Q qualifies as more than a plaything.

In the Test Lab

As we expected, the Pentax Q's small sensor size limits its resolving power while making noise a sticky wicket. In our

PENTAX Q

12.4MP CMOS 1/2.3-inch sensor
1920x1080p30 HD video
3-in. 460,000-dot LCD screen
$800, street, with 8.5mm (47mm equiv.) f/1.9 lens

SAM KAPLAN

standard test results, which are based on TIFF files converted from RAW using the camera's included software, the Q scored only an Acceptable rating in resolution, with 1700 lines per picture height.

Furthermore, as ISO increases, its resolving power falls off and the noise level rises. Since the modified version of the bundled Silkypix software does not increase the noise reduction as the sensitivity setting increases, our official noise results look worse than you'll experience shooting JPEGs at higher ISOs. For example, at ISO 800 the Q scored Unacceptable noise levels from TIFFs (4.5) while JPEGs earned a Moderate (2.7) rating. At the top sensitivity setting of ISO 6400, TIFFs scored an 18.2; JPEGs, 3.6.

When you look at resolution at those ISOs, however, you can see why. At ISO 800, TIFFs converted using the default noise reduction yielded 1640 lines, while JPEGs converted in camera turned in 1520 lines. At ISO 6400, TIFFs resolved 1480 lines; JPEGs fell to 1225 lines. (Experimenting with NR during RAW conversion can balance noise against resolution—if you are willing to do this.)

Lower ISOs tell a different story. Both JPEGs and TIFFs were tied in resolution from ISO 125 through 400. But, at ISO 125 and 200, TIFFs had less noise than JPEGs; at ISO 400 both scored a Moderate 2.4.

Color accuracy was decidedly better with TIFFs, which showed an average Delta E of 6.5, while JPEGs scored a 10.1. The TIFFs earned an Excellent rating, while the JPEGs fall two bands to High.

PENTAX Q

WHAT'S HOT

Smallest ILC we've tested yet.

WHAT'S NOT

Small sensor is noisy at high ISOs.

WHO IT'S FOR

Casual shooters looking for a tiny camera that uses swappable lenses.

DAN BRACAGLIA (LCD IMAGE)

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In overall TIFF image quality, the Pentax Q earned an Acceptable rating from ISO 125 through 200—in line with what you might expect from a compact.

For comparison, we tested the Canon PowerShot S95 (see PopPhoto.com/buying-guide/compacts) and measured more resolution, with 1940 lines at ISO 80 from TIFFs converted from RAW files. This may be due to the S95's slightly larger sensor, which allowed Canon to apply less resolution-robbing noise reduction. Still, the Q outperformed it on color accuracy and noise at ISO 200.

If the Q attracts snapshooters who won't ever make large prints, its lower-resolution images should be fine. Plus, if you shoot only JPEGs, then the noise shouldn't be too bothersome.

In the Field

The Pentax Q's small sensor definitely pays off when it comes to body size. (That's not a given, as we found in our test of the Nikon 1 J1 last month.) We expected its handling to be irksome, but we were pleasantly surprised. Pentax's designers did a great job of creating a cute little body that feels solid and provides plenty of access to controls.

While some ILCs relegate too many functions to menus, the Q strikes a nice balance. The menu navigation buttons double as access points for ISO, flash, drive mode, and white balance. Exposure compensation gets its own button, since there's room for only one command wheel. There's even a programmable button—surprising, as the 3-inch 460,000-dot LCD takes up most of the back of the camera.

The most significant omission is a viewfinder, but given the size of the body (did we mention how tiny this thing is?), it makes sense.

The shooting experience felt very much like using a compact camera, just a very responsive one with fairly quick autofocus. The Pentax Q isn't the fastest-focusing ILC around—Olympus and Panasonic have it beat, for now—but it was fast enough for us to get most of the shots we wanted. In low light, it becomes noticeably slow, but that can be said of most non-DSLRs.

Don't look to the Q for intensive bursts. At its top speed of 5 frames per second it can only hold up to 5 frames in its buffer. For more casual photographers trying to capture the best of a short burst of shots, this should suffice.

If you like to switch among different shooting modes often, note the dial on the front of the camera. You can assign a shooting mode to each of the four numbers on it, allowing you to switch in a jiffy. We assigned black-and-white shooting to one of the numbers, and a few of the other Smart Effects modes to the others, and had fun switching to them whenever an appropriate scene presented itself.

Video shot on the Q looks good. For casual shooting, such as clips of friends and family, the Q does an admirable job, but a dedicated video cam will likely be better at focusing on moving subjects.

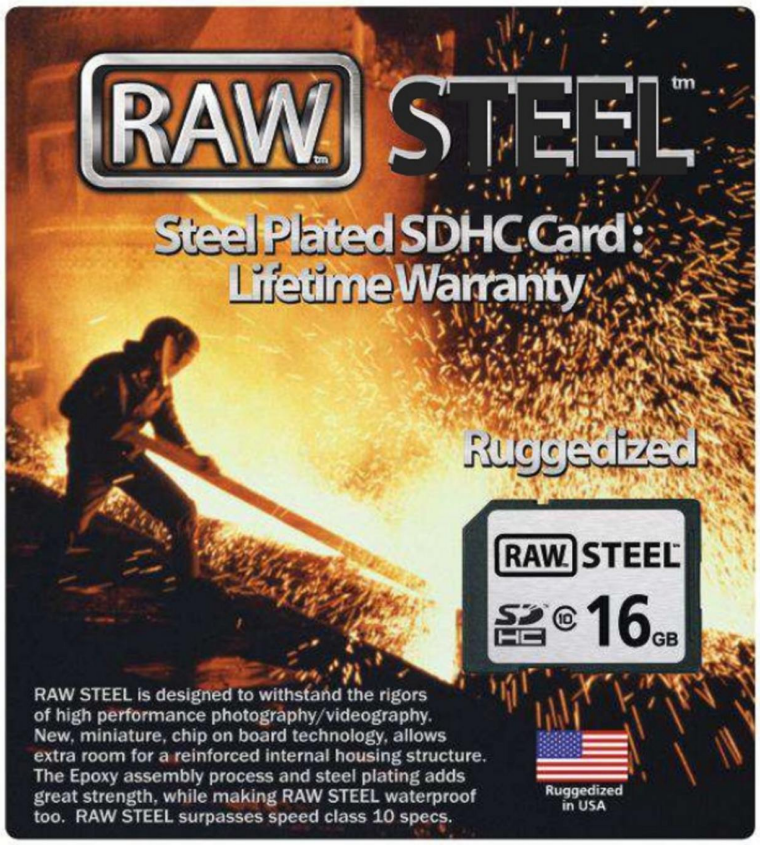
While we had fun shooting, we did feel limited in our choice of lenses. Given that this system is still quite new, we can't fault Pentax for this just yet. We will say that there is a big difference between the serious Standard 1 (47mm equivalent) f/1.9 and Standard 2 (27.5–83mm equivalent) f/2.8–4.5 lenses, and the so-called Toy lenses: wide ($80, street), tele ($80, street), and fisheye ($130, street).

The Q's body doesn't have a mechanical shutter, so the Toy lenses use the sensor instead; the Standards have shutters built in. As their moniker suggests, the image quality of the Toys does not equal that of the Standards. Nor do the Toy lenses autofocus, so you must focus manually using scratchy plastic rings with a tiny turning radius.

As with its DSLRs, Pentax built sensor-shift image stabilization into the Q, which works with any lens you mount on the camera. The stabilization system

With a camera this small, you have to expect some tradeoffs. One of the big ones for the Pentax Q is that it won't let you shoot RAW images in burst mode.

TEST RESULTS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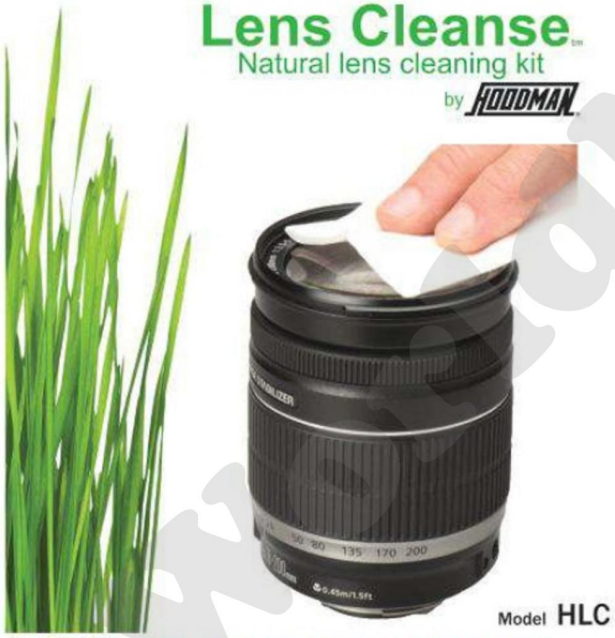

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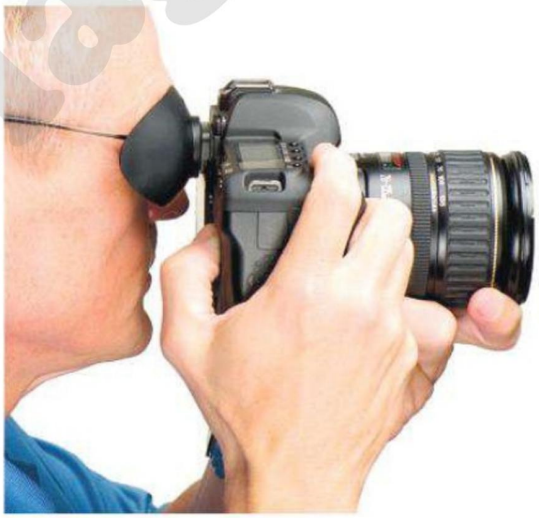

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afforded our testers an average of 2.5 stops at the long end of the Standard 2 zoom lens.

The Bottom Line

The main downside to the Pentax Q is the price. At $800, street, with the Standard 1 lens, it's far more expensive than most comparable standard compacts such as the Canon S95 ($340, street), and pricier than even some large-sensor ILCs, such as the Olympus Pen E-PL3 ($680, street, with 14–42mm f/3.5–5.6 lens).

Even Nikon's J1 ($650, street, with 10–30mm f/3.5–5.6 lens), which also has a small sensor (though not *as* small), might provide better value than the Q since it offers more resolution and lower noise up to ISO 800.

The pop-up flash on the Q is surprisingly powerful for its size and extends up and to the side to help diminish red eye.

For photographers who are looking for their main camera, and who prize image quality, the Q is a tough call. But for shooters looking for something fun, small, and unique, the Pentax Q delivers, without question. *—Philip Ryan*

SPECIFICATIONS

IMAGING: 12.4MP effective, 1/2.3-inch (6.17x4.55mm) CMOS sensor captures images at 4000x3000 pixels with 12 bits/color in RAW mode.

STORAGE: SD, SDHC, SDXC. Stores JPEG, DNG RAW, RAW + JPEG files.

VIDEO: Up to 1920x1080p30 fps in H.264 MP4 format; built-in stereo mic (tested), no mic input; contrast detection AF with continuous AF.

BURST RATE: Full-sized JPEGs (Fine mode): 5 fps up to 5 shots or 1.5 fps up to 100 shots. RAW and RAW + JPG are not available in continuous shooting mode.

AF SYSTEM: TTL contrast detection with 25-point auto select, selectable spot, center spot. Single-shot and continuous AF with tracking and face detection.

SHUTTER SPEEDS: 1/2000 to 30 sec (using a lens's shutter), 1/8000 to 30 sec (using electronic shutter), plus B (1/3-EV increments).

METERING: TTL metering using 16-zone multi-segment (evaluative), centerweighted, and spotmetering; 1.3–17 EV (at ISO 125, f/1.9).

ISO RANGE: ISO 125–6400 (in 1/3-EV increments).

FLASH: Built-in pop-up with TTL autoflash, GN 18 (ISO 125, feet). Flash sync to 1/250 sec.

LCD: 3-in. TFT with 460,000-dot resolution.

OUTPUT: Hi-Speed USB 2.0 and micro HDMI video.

BATTERY: Rechargeable D-LI68 Li-ion, CIPA rating, 250 shots.

SIZE/WEIGHT: 3.9x2.3x1.2 in., 0.44 lb with a card and battery.

STREET PRICE: $800 with 8.5mm (47mm equivalent) f/1.9 lens.

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AMATEUR PRO

The Other 1

THE UPSCALE SIBLING IN THE NIKON 1 FAMILY

WHEN NIKON staffers first showed us the new 1 series of interchangeable-lens compacts (ILCs), they explained that the company had thrown everything out the window to design these cameras from scratch. Now, after having tested both the V1 ($900, street, with 10–30mm f/3.5–5.6 VR lens) and the J1 ($650 with same lens), we wish Nikon would have kept that window closed, at least a little. While its built-in electronic viewfinder makes the V1 more pleasant to use than the J1, it shares many of its sibling's shortcomings.

In the Test Lab

In our December 2011 test of the J1, we noted that the sensor's size (a new format Nikon calls CX) limited that camera's performance. The same can be said for the V1, as the two cameras yielded very similar image-quality results. Though our test of the V1 showed slightly lower noise scores at certain ISOs, the margin was so small that this could simply be a result of normal variances in manufacturing.

Like its sibling, the V1 earned a Very High rating in overall image quality at ISO 100 and 200, based on RAW files converted to TIFFs using the bundled ViewNX 2 software.

But like the J1, the limiting factor was resolving power. While the V1 reproduced enough detail to rate Very High in resolution at its bottom sensitivity setting of ISO 100,

NIKON 1 V1

WHAT'S HOT

Low noise all the way to ISO 800.

WHAT'S NOT

Clunky non-auto shooting experience.

WHO IT'S FOR

Casual photographers who shoot in auto mode and won't print big.

PHILIP RYAN (LCD IMAGE)

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1 J1

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Camcorders

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with 2010 lines per picture height, at ISO 200 it stayed just above the 2000-line cutoff, and at ISO 400 the resolution slipped to 1925 lines. At ISO 800 it showed a respectable 1900 lines, but after that point resolution began to drop off faster. At the camera's top sensitivity of ISO 6400 (Nikon calls it Hi1), tested resolution was down to 1700 lines.

That is enough for small prints and sharing images online. But it seems lacking compared to Panasonic's less-expensive Lumix DMC-G3, which resolved 2570 lines at its lowest sensitivity of ISO 160. And with noise reduction at its insufficient default setting, the G3 retained most of that resolution, with 2480 lines at ISO 6400. This means the G3 at its highest ISO can outresolve the V1 at the Nikon's lowest. And while the G3's images will be quite noisy when processed at the default settings, it has an extra 400 lines of resolution to spare for noise reduction.

Speaking of noise, Nikon does a good job of keeping it under control with the V1. The camera achieved Very Low or Extremely Low ratings from ISO 100 through 800. At ISO 1600 and 3200, noise remained in acceptable territory, with Moderate ratings. But at the highest sensitivity setting, noise was Unacceptable (3.7).

The Lumix G3, by comparison, fared worse in our noise test, reaching Unacceptable by ISO 800. But if you are willing to experiment with noise reduction, you can fare better than you are likely to with the V1. (To its credit, Nikon steps up its default noise reduction values as ISO increases, rather than setting the same low value throughout the range, the way Panasonic does.)

Nikon also got color accuracy right on the V1. The camera showed an average Delta E of 7.4, earning it an Excellent rating. When we ran that same test on a JPEG captured simultaneously with the RAW file, color accuracy fell to 9.2—yet another reason to shoot RAW instead of JPEG.

Like its J1, Nikon's V1 has phase-detection AF sensors embedded in its imaging sensor. Using phase detection in brighter light proved to be fast, but in low light, where the camera switches to contrast detection, AF slowed noticeably.

In the Field

The V1 and J1 have only a few key differences. Unlike the J1, the V1 has a mechanical shutter, though the option of using the "electronic" shutter (essentially sampling the sensor) remains an option. The V1 also lacks the J1's built-in flash, instead offering a small, nonstandard accessory shoe to the left of the built-in

CONTINUES ON PAGE 104

DAN BRACAGLIA

Its built-in electronic viewfinder makes the Nikon 1 V1 more pleasant to use than the J1.

TEST RESULTS

IMAGE QUALITY — ISO 100–200

VERY HIGH

POOR — EXCELLENT

RESOLUTION — ISO 100

2010 VERY HIGH

1500 2000 2500 3000 3500 4000

POOR — EXCELLENT

COLOR ACCURACY

EXCELLENT 7.4

HIGH — EXCELLENT

NOISE — AT ISO

EXTREMELY LOW 0.9	100
EXTREMELY LOW 1.1	200
VERY LOW 1.2	400
VERY LOW 1.5	800
MODERATE 2.4	1600
MODERATE 2.7	3200
◀ UNACCEPTABLE 3.7	6400

3.0 2.5 2.0 1.5 1.0 0.5

UNACCEPTABLE — EXTREMELY LOW

HIGHLIGHT/SHADOW DETAIL

HIGH

LOW — EXTREMELY HIGH

CONTRAST

HIGH

LOW — EXTREMELY HIGH

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Macro Gift

NIKON'S DX LENS WITH FX ASPIRATIONS

IN BOTH capability and cost, this close-up lens is a gift to DX-format (APS-C-sensor) Nikon shooters. A full-frame equivalent of 60mm, it delivers a lot for its meager $280 street price: 1:1 macro shooting, a fast f/2.8 aperture, metal lensmount, and great optics. The closest Nikkor with 1:1 subject magnification, the full-frame 60mm f/2.8, costs nearly twice as much.

This lens is compact, light, and attractive. Its focusing ring is well scaled and provides a generous turning radius for precise manual focusing—exactly what you want in a macro lens. Its turning action is even, if slightly rough. On our Nikon D7000, the autofocus was both inaudible and fast enough for all but the most active subjects. You can also focus manually while in AF mode—a desirable option.

It sports a focus limiter switch with 1:1-to-infinity and 1:2-to-infinity ranges, which is rare in a lens this inexpensive. While nice, this would have been more useful with the second option dedicated to a nonmacro range, because macro shooting distances are extremely tight: At 1:1, the front element is little more than an inch from the subject, almost inside the hood—so you may want a macro ring light. The 1:2 setting offered the closest focusing distance (about 3 inches from the front element) that allowed use of the D7000's pop-up flash without casting a shadow across the subject.

On our optical test bench, the lens delivered Excellent-range SQF scores, indicating sharp and contrasty glass. All the scores at 11x14 (our benchmark) were in the low 90th percentile—a strong showing, if slightly below that of Nikon's legendary full-frame 60mm f/2.8 macro, which consistently reached the mid-90s.

Our DxO Analyzer 4.0 tests of distortion control found Imperceptible-range pincushioning (0.04%) at both macro and regular focusing points—nearly perfect. At normal distances, light falloff left the corners by f/3.5, and in the macro range we found no vignetting at all. Plus, subject magnification at the closest focusing distance came in at greater than 1:1. Sweet!

With its large aperture, quiet operation, compact size, and great price, this is a perfect everyday lens with a crucial trick up its sleeve—1:1 macro power. Its near-normal focal length promises minimal perspective distortion for half-length portraits, and for close-up fans it offers almost everything Nikon's pricier 60mm f/2.8 full-frame macro does. This 40mm should appeal to many a DX shooter. *—Julia Silber*

In macro mode, you can focus on subjects that are only about an inch from the front element of the lens. The 6.4-inch close-focusing we report in our lab test results measures the distance from the focusing plane, the industry norm.

SPECIFICATIONS

40MM (39.99mm tested), f/2.8 (f/2.87 tested), 9 elements in 7 groups. Focus ring turns 160 degrees.
DIAGONAL VIEW ANGLE: 38 degrees.
WEIGHT: 0.55 lbs. **FILTER SIZE:** 52mm
MOUNTS: Nikon AF.
INCLUDED: Lenshood, case.
STREET PRICE: $280.

TEST RESULTS

DISTORTION: 0.04% (Imperceptible) pincushion.
MACRO DISTORTION: 0.04% (Imperceptible) pincushion.
LIGHT FALLOFF: Gone by f/3.5.
MACRO LIGHT FALLOFF: None.
CLOSE-FOCUSING DISTANCE: 6.37 inches.
MAXIMUM MAGNIFICATION RATIO: 1:0.90.

NIKON 40MM F/2.8G AF-S DX MICRO NIKKOR

WHAT'S HOT
Fast, 1:1 magnification, nice price.

WHAT'S NOT
At 1:1, it's very close to the subject.

WHO IT'S FOR
DX shooters into high speed and even higher magnifying power.

DAN BRACAGLIA

SUBJECTIVE QUALITY FACTOR

Our standard lens test, SQF rates sharpness by print size

40 MM

Size	5x7	8x10	11x14	16x20	20x24
2.8	96.3	95.1	92.4	86.9	80.2
4.0	96.4	95.3	92.6	87.5	81.2
5.6	96.6	95.6	93.2	88.5	82.8
8.0	96.6	95.6	93.1	88.3	82.5
11.0	96.4	95.3	92.7	87.7	81.5
16.0	96.1	95.0	92.2	86.6	79.9
22.0	95.8	94.5	91.4	85.3	77.7

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A FISHEYE FOR MICRO FOUR THIRDS

THE U.S. IMPORTERS of Rokinon—*née* Samyang—lenses continue their assault on the specialty glass market with an unexpected (but welcome) sortie into the Micro Four Thirds territory. This 7.5mm f/3.5 fisheye for Olympus and Panasonic ILCs puts an alluring price ($299, street) and distinctive imaging into a compact package that many shooters will find fun.

A 15mm full-frame equivalent, it provides an expansive 180-degree angle of view, minimal weight (6.2 oz), and a frame-filling, noncircular image—but no autofocus. In the hands, the lens feels well made, with an extremely well-damped turning action for its amply sized focusing ring. Like many fisheyes, however, it doesn't accept filters.

Attractive in matte-black (also available in silver), this Rokinon looked perfectly at home on our Olympus Pen Lite E-PL3 test camera. We appreciated the built-in, petal-style lenshood, since the front element extends beyond the barrel, making flare an ever-present possibility.

Because of the unusual nature of fisheyes, we were unable to perform our full array of optical bench tests, and we never measure distortion on optics that are designed to produce it.

This Rokinon's lack of AF was an issue only with close-focus subjects (less than 4 inches from the image plane). Closing down to about f/4 and scale-focusing just short of the infinity mark puts everything from 1 foot to infinity in acceptably sharp focus. But for close-up subjects, viewfinder magnification is a must.

In general, though, this lens was a lot of fun to shoot with—especially for video clips. *—Julia Silber*

ROKINON 7.5MM F/3.5 UMC FISHEYE MFT
WHAT'S HOT
Nice price; distinctive imaging.
WHAT'S NOT
No AF; tricky close-up focusing.
WHO IT'S FOR
Micro Four Thirds shooters with extra pocket change and a yearning for fun.

DAN BRACAGLIA

SPECIFICATIONS

7.5MM (not tested due to the special optical characterisitcs of this lens), f/3.5 (not tested), 9 elements in 7 groups. Focus ring turns 130 degrees.
DIAGONAL VIEW ANGLE: 180 degrees.
WEIGHT: 0.38 lb. **FILTER SIZE:** n.a.
MOUNTS: Micro Four Thirds.
INCLUDED: Lens pouch.
STREET PRICE: $299.

TEST RESULTS

CLOSE-FOCUSING DISTANCE: 3.5 inches.
MAX. MAGNIFICATION RATIO: 1:4.53.

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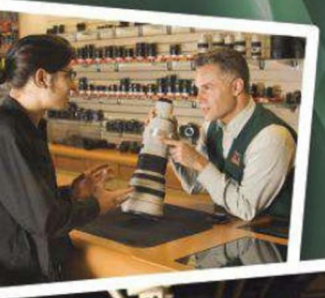

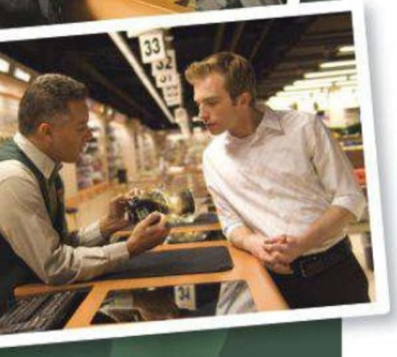

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- RAW File Mode • Dim.: 4.41 x 3 x 1.9"

*#CAPSG12**

10 Mega Pixels

Nikon Coolpix P300

- 3" High Res. LCD • 4.2x Optical Zoom
- 4.3-17.9mm f/1.8-4.9 (35mm equiv: 24-100mm) • SDHC/SDXC Card Slot
- 4-Way VR Image Stabilization • Full HD 1920 x 1080 Video with Stereo Sound
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*#NICPP300**

12 Mega Pixels

Panasonic Lumix DMC-LX5

- 3" LCD • HD Video Recording
- 3.8x Optical Zoom • 4x Digital Zoom
- 5.1-19.2mm f/2-3.3 (35mm equiv: 24-90mm) Leica DC Vario-Summicron
- SDHC/SDXC Card Slot • Raw Recording
- Dimensions: 4.32 x 2.58 x 1.69"

#PADMCLX5 Black, White*

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SONY CyberShot DSC-WX10

- 2.8" LCD Monitor • 7x Optical Zoom
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4GB	17.95	34.99	—	—	10.20	13.29	—	—	24.50	—	—	18.10	—	—	—
8GB	22.50	49.99	—	129.99	16.95	19.95	—	—	31.95	45.95	74.95	32.95	49.95	—	—
16GB	39.99	89.99	144.99	169.99	—	—	33.50	69.95	49.95	74.95	114.95	54.95	94.95	129.95	—
32GB	87.95	139.99	269.99	299.99	—	—	66.50	146.50	—	137.95	229.95	—	153.95	239.95	—
64GB	—	299.95	—	579.99	—	—	—	—	—	—	—	—	—	474.95	—
128GB	—	—	—	—	—	—	—	—	—	—	—	—	—	—	948.50

MSDUO Memory Stick Pro Duo

	Sony	
	Mark II	Pro-HG HX 20 MBs
2GB	14.99	—
4GB	16.95	—
8GB	—	29.95
16GB	—	54.99
32GB	—	101.98

SDXC Extended Capacity

	Delkin	Kingston		Lexar	Sandisk		Panasonic
	Elite 45 MBs	Class 6 15 MBs	Class 10 35 MBs	Class 10 20 MBs	Class 4 15 MBs	Class 10 90 MBs	Class 10 45 MBs
64GB	349.99*	175.95	409.95*	114.95	116.95	237.50*	369.99*
128GB	—	—	—	194.95	—	—	—

Note: Not all devices support SDXC cards *** UHS-1**

SDHC-UHS-1 Ultra High Speed

	Delkin	Kingston	Sandisk	Panasonic	
	Elite 80 MBs	Ultimate XX 35 MBs	Extreme Pro 90 MBs	Gold 25 MBs	Pro Class 10
8GB	69.99	54.95	34.50	44.50	52.95
16GB	129.99	118.95	65.95	89.50	107.95
32GB	249.99	247.50	126.50	163.50	194.95

SD HC Secure Digital High Capacity

	Delkin			Kingston				Lexar			Panasonic		Sandisk				Sony		
	Pro Class 6	Pro Class 10	Micro	Standard Class 4	Standard Class 6	Ultimate X Class 10	Micro Class 4 Multi Kit	Std Class 4	Platinum II 100x	Professional Class 10 133x	Silver Class 4 20 MBs	Gold Class 10 25 MBs	Std Class 4	Ultra	Extreme Class 10 30 MBs	Micro Class 4	Standard Class 4	Class 10	Micro Class 4
4GB	9.09	19.99	12.50	—	8.95	—	8.99	7.95	9.95	—	8.95	19.99*	7.99	10.95	13.95	6.99	7.99	—	8.95
8GB	17.50	34.99	—	9.95	14.95	15.99	13.95	14.95	12.95	23.50	19.50	—	13.50	18.99	19.95	11.95	13.95	23.95	13.95
16GB	34.50	64.99	34.50	23.50	24.45	28.95	28.95	21.95	22.95	34.95	29.99	—	18.99	26.95	38.95	17.77	24.95	29.95	—
32GB	—	124.99	—	47.50	—	53.95	57.50	42.50	46.50	58.50	—	*** UHS-1**	39.95	59.95	74.95	42.53	—	59.95	—

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AT-3410	BA-00T	6.6 lb	59.4"	16.5"	3.4 lb	#OBAT3410BA00	$224.95
AT-3420	BA-0T	11 lb	62.6"	17.7"	4.2 lb	#OBAT3420BA0T	$259.95
6x Carbon Fiber Series with Head							
CT-3400	BB-0T	12.4 lb	56.7"	15"	3 lb	#OBCT3400BB0T	$349.95
CT-3410	BB-0T	16.8 lb	59.4"	16.5"	3 lb	#OBCT3410BB0T	$399.95
CT-3420	BB-1T	22 lb	62.8"	17.7"	4 lb	#OBCT3420BB1T	$449.95
CT-3500	BB-0T	12.4 lb	53.3"	12.8"	2.5 lb	#OBCT3500BB0T	$349.95
CT-3510	BB-0T	16.8 lb	60.6"	15.5"	3.2 lb	#OBCT3510BB0T	$399.95
CT-3520	BB-1T	22 lb	64.8"	16.5"	4 lb	#OBCT3520BB1T	$469.95

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- Up to ISO 12800 Sensitivity

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- 2nd Gen Translucent Mirror Design
- OLED Electronic Viewfinder
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24 Mega Pixels

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35-100/2.0 ED (77ø)	$2,499.99
40-150/4-5.6 ED (58ø)	$279.95
50-200/2.8-3.2 ED SWD (67ø)	$1,199.95
90-250/2.8 ED (105ø)	$5,999.95
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10-17/3.5-4.5 ED IF (77ø)	12-24/4 ED AL IF (77ø)
16-45/4 ED AL (67ø)	
16-50/2.8 ED AL IF SDM (77ø)	
17-70/4.0 AL IF SDM (67ø)	
18-55/3.5-5.6 AL II (52ø)	
50-135/2.8 ED IF SDM (67ø)	
50-200/4-5.6 ED WR (52ø)	
55-300/4-5.8 ED (58ø)	
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11-18/4.5-5.6 DT (77ø)			$699.99
16-35/2.8 ZA SSM Carl Zeiss (77ø)			$1,899.99
16-80/3.5-4.5 DT Carl Zeiss (62ø)			$849.99
16-105/3.5-5.6 DT (62ø)			$649.99
18-200/3.5-6.3 DT Aspherical (62ø)			$549.99
18-250/3.5-6.3 DT (62ø)			$599.99
24-70/2.8 Carl Zeiss (77ø)			$1,799.99
70-200/2.8 G APO (77ø)			$1,999.99
70-300/4.5-5.6 G (62ø)			$899.99
75-300/4.5-5.6 (55ø)			$249.99
1.4x Teleconverter	$499.99	2x Teleconverter	$499.99

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67mm - Neutral or Portrait	#EXWB67*	$89.95
72mm - Neutral or Portrait	#EXWB72*	$94.95
77mm - Neutral or Portrait	#EXWB77*	$99.95
82mm - Neutral or Portrait	# EXWB82*	$104.95

OLYMPUS

50mm f/2 Macro ED Zuiko Digital Lens

- *Designed exclusively for Digital SLRs*
- Ideal for macro photography and also as a portrait lens
- Magnification 1:2
- ED glass element
- Min. focus: 9.45"
- 52mm filter diameter
- Weight: 10.6 oz

PENTAX

18-135mm f/3.5-5.6 ED AL (IF) DC WR Digital Lens

- *Designed exclusively for Digital SLRs*
- SP Coating Repels Dust, Water, & Grease
- Weather resistant
- Quick-Shift Focus System
- Min. focus: 1.3'
- 62mm filter diameter
- Weight: 14.3 oz

SONY

HVL-F58AM Shoe-Mount Digital Flash

- Zoom Head (24-105mm)
- Bounce & Swivel Head
- Guide No. 190'
- TTL Dedication
- Vari-Power
- High-Speed Sync
- Auto WB Adjustment
- Wireless Ratio Control
- Weight: 15.6 oz

SONY

16-80mm f/3.5-4.5 Carl Zeiss T* DT Digital Lens

- *Designed exclusively for Digital SLRs*
- Ideal for snapshots, portraits, interiors, or outdoor scenery
- 35mm equiv: 24-120mm
- Min. focus: 13.8"
- 62mm filter diameter
- Weight: 15.5 oz

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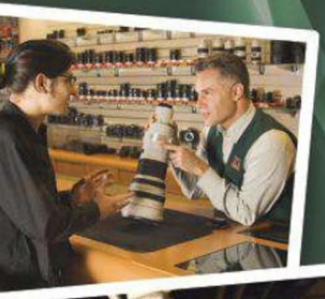

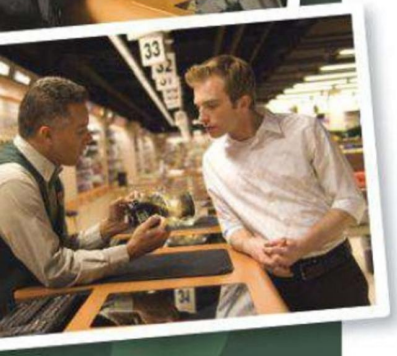

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Canon Digital Rebel T3 DSLR

- 2.7" Clear View LCD with Live View Function
- Uses Canon EF Lenses (1.6x factor)
- SDHC/SDXC Card Slot
- 3 fps Continuous Shooting
- ISO 100-6400
- Full HD Movie Mode
- RAW + JPEG Files
- Basic + Function / Creative Auto
- 63 Zone Dual-Layer System/9 Point AF

Kit with 18-55mm IS.....#CAEDRT3K

12 Mega Pixels

Canon Digital Rebel T3i DSLR

- 3" Clear View Vari-Angle LCD
- Uses Canon EF Lenses (1.6x factor)
- SDHC/SDXC Card Slot
- 3.7 fps Continuous Shooting
- ISO 100-6400
- RAW + JPEG Files
- Full HD Movie Mode with Manual Exposure
- 63 Zone Dual-Layer System/9 Point AF

Body Only.....#CAEDRT3I
Kit with 18-55mm IS.....#CAEDRT3IK

18 Mega Pixels

Canon EOS-60D DSLR

- 1920 x 1080 HD Video Capture
- DIGIC 4 Image Processor
- SD/SDHC/SDXC Card Slot
- Works with all Canon EF & EF-S Lenses • Vari-Angle Clear View 3.0" Flip-Out LCD
- HDMI Output to HDTV
- 5.3 fps Continuous Shooting
- ISO 6400 - Expandable to 12800

Body Only.....#CAE60D
Kit with 18-135mm IS.....#CAE60D18135
Kit with 18-200mm IS.....#CAE60D18200

18 Mega Pixels

Canon EOS-5D Mark II DSLR

- Record HD Video • 1080p Movie Mode
- Full-Frame Sensor • Live View Mode
- 3" High Resolution LCD Screen
- Uses Canon EF Lenses
- CF, MD Card Slot
- Dust and Weather Resistant
- Self-Cleaning Sensor
- 3.9 fps Burst Mode
- 9-point AF Sensor Array
- ISO Range 50-25600

Body Only.....#CAE5D2
Kit with 24-105mm IS.....#CAE5D224105

21 Mega Pixels

Canon EOS-7D DSLR

- Record HD Video • 3" LCD
- Uses Canon EF Lenses
- CF, MD Card Slot
- Dust and Weather Resistant
- Selectable Video Exposure and Frame Rates
- ISO 100-6400 (expandable to 12800) • 8 fps Burst Mode
- 19-Point, All Cross-Type AF System

Body Only.....#CAE7D
Kit with 18-135mm IS.....#CAE7D18135
Kit with 28-135mm IS.....#CAE7D28135

18 Mega Pixels

Canon EOS-1D Mark IV DSLR

- HD Video Recording
- Selectable Video Exposure + Frame Rates
- Self-Cleaning Sensor
- 3" LCD Monitor
- Uses Canon EF Lenses
- SD/SDHC & CF card slots
- 10 fps Burst Mode
- Dust and Weather Resistant
- 45 Point AF System
- High Sensitivity (ISO 102,400)

*Body Only.....#CAE1D4**

16 Mega Pixels

Canon SLR Lenses and Flashes

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EOS Flash System (USA)

270EX
270EX II
320EX
430EX II
580EX II
MR-14EX Ringlight
MT-24EX Twin Flash

EF-S Lenses for Digital Only (USA)

(Not compatible with full frame cameras)

60/2.8 USM Macro (52ø)
10-22/3.5-4.5 USM (77ø)
15-85/3.5-5.6 IS USM (72ø)
17-55/2.8 IS USM (67ø)
17-85/4-5.6 IS USM (67ø)
18-55/3.5-5.6 IS (58ø)
18-135/3.5-5.6 IS (67ø)
18-200/3.5-5.6 IS (72ø)
55-250/4.0-5.6 IS USM (58ø)

EF Lenses (USA)

15/2.8
20/2.8 USM (72ø)
24/2.8 (58ø)
28/2.8 (52ø)
28/1.8 USM (58ø)
35/2 (52ø)
50/1.8 (52ø)
50/2.5 Macro (52ø)
50/1.4 USM (58ø)
MP-E 65/2.8 1x-5x Macro (58ø)
85/1.8 USM (58ø)
100/2 USM (58ø)
100/2.8 USM Macro (58ø)
135/2.8 (52ø)

EF Lenses (USA)

28-135/3.5-5.6 IS USM (72ø)
70-300/4-5.6 IS USM (58ø)
70-300/4.5-5.6 DO IS USM (58ø)
75-300/4.0-5.6 III (58ø)
75-300/4.0-5.6 III USM (58ø)

TS-E MF Lenses (USA)

17/4.0 "L"
24/3.5 "L" II
45/2.8
90/2.8

EF "L" Lenses (USA)

14/2.8 USM II
24/1.4 II (77ø)
35/1.4 USM (72ø)
50/1.2 USM (72ø)
85/1.2 USM II (72ø)
100/2.8 IS USM Macro (67ø)
135/2.0 USM (72ø)
180/3.5 USM Macro (72ø)
200/2.8 USM II (72ø)
200/2.0 IS USM (52ø)

EF "L" Lenses (USA)

300/4.0 IS USM (77ø)
300/2.8 IS USM II (52ø rear)
400/5.6 USM (77ø)
400/2.8 IS II (52ø rear)
500/4 IS USM (52ø rear)
600/4.0 IS (52ø rear)
8-15/4.0 Fish-eye USM
16-35/2.8 USM II (82ø)
17-40/4.0 USM (77ø)
24-70/2.8 USM (77ø)
24-105/4 IS USM (77ø)
28-300/3.5-5.6 IS USM (77ø)
70-200/4.0 USM (67ø)
70-200/4.0 IS USM (77ø)
70-200/2.8 USM (77ø)
70-200/2.8 IS II USM (77ø)
70-300/4.0-5.6 IS USM (67ø)
100-400/4.5-5.6 IS USM (77ø)
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1.4x III Teleconverter
2x II Teleconverter
2x III Teleconverter

Canon
580 EX II
Shoe-Mount Flash

- Dust and water resistance
- Guide No. 190'
- Metal Hot Shoe
- E-TTL II, E-TTL, TTL & Manual
- Bounce and Swivel Head
- Zoom Head (24-105mm)
- Weight: 13.2 oz

Canon
10-22mm f/3.5-4.5 EF-S USM
Digital Lens

- ***Designed exclusively for Digital SLRs***
- 35mm equivalent: 16-35mm
- Min. Focus: 9.5"
- 3 aspherical lens elements
- 3.5-27 f/Stop Range
- 77mm filter diameter
- Weight: 13.6 oz

Canon
24-70mm f/2.8 EF "L" USM
Zoom Lens

- Sealed and gasketed against dust and moisture
- Internal Focusing
- UD Element
- Two Aspherical Elements
- 2.8-22 f/Stop Range
- Focus 1.25' to Infinity
- 77mm filter diameter
- Weight 33.6 oz

Canon
70-200mm f/2.8 EF "L" IS II USM
Telephoto-Zoom Lens

- Improved Optical Image Stabilization provides up to 4 stops correction
- Min. Focus: 3.9'
- Dust and moisture resistant
- 77mm filter diameter
- Weight: 52.56 oz

Nikon D3000 DSLR

- Self-Cleaning Sensor
- 3" LCD Monitor
- Accepts Nikon AF Lenses (1.5x factor)
- ISO 100-1600
- Fast Shutter Response
- SD, SDHC Card Slot
- In-camera Editing
- 3 fps Burst Mode
- 11-point Autofocus System
- Nikon Inc. limited warranty included

Kit with 18-55mm VR DX.....#NID30001855

10 Mega Pixels

Nikon D3100 DSLR

- HD 1080p Video w/ Sound & Autofocus
- 3" LCD • Live View
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC Card Slot
- 11-point Autofocus
- 3 Frames per Second Shooting
- ISO 100 to 3200 (Expand to 12800-Hi2)
- Self Cleaning Sensor
- Nikon Inc. limited warranty included

*Kit with 18-55mm VR #NID31001855...***$649.95**

14 Mega Pixels

Nikon D5100 DSLR

- 1080p HD Movies with Full Time AF
- Uses Nikon AF Lenses (1.5x factor)
- 3.0" Vari-angle LCD
- SD/SDHC Card Slot
- ISO Sensitivity 100-6400
- In-Camera Special Effects Mode
- In-Camera HDR (High Dynamic Range)
- Fast 11-Point Autofocus System
- Nikon Inc. limited warranty included

*Body Only #NID5100.....***$749.95**
*Kit with 18-55mm VR #NID51001855...***$849.95**

16 Mega Pixels

Nikon D7000 DSLR

- EXPEED 2 Image Processor
- 1080p HD Video Capture
- RAW + JPEG Still Image Capture
- 3" LCD Monitor
- Accepts Nikon AF Lenses (1.5x factor)
- Twin SD/SDHC/SDXC Card Slots
- 39-point AF System
- RGB 3D Matrix Metering System
- i-TTL Flash + Speedlight Compatibility
- Nikon Inc. limited warranty included

*Body Only #NID7000.....***$1,199.95**

16 Mega Pixels

Nikon D700 DSLR

- Self Cleaning Sensor • 5 fps Burst
- FX-format CMOS (full frame)
- 3" VGA LCD Monitor • Live View
- 51-point AF System
- Uses Nikon AF Lenses
- CompactFlash Card Slot
- Dust and Water Resistant
- Active D-Lighting Mode
- HDMI Video Out • ISO 6400
- Nikon Inc. limited warranty included

Body Only.....#NID700
Kit with 24-120mm VR.....#NID70024120

12 Mega Pixels

Nikon D3s DSLR

- RAW/JPEGs & 720p HD Video @ 24fps
- FX-format (full-frame) CMOS Sensor
- In-Camera RAW Processing
- 3" 920,000-Dot LCD with Live View
- Compatible with Most Nikkor Optics
- Built Tough, Fully Weathersealed
- ISO Sensitivity up to 102,400
- Buffers Up to 48 RAW or 130 large JPEGs
- Dual CF Card Slots
- Nikon Inc. limited warranty included

Body Only.....#NID3S

12 Mega Pixels

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AF Flashes

SB-400
SB-700 ..... **$329.95**
SB-900
R1 Wireless Twin Flash
R1C1 Wireless Twin Flash System

DX ED-IF Lenses for Digital Only

10.5/2.8 Fish-Eye
35/1.8 G AF-S (52ø) **$199.95**
40/2.8 G AF-S Micro (52ø) **$279.95**
85/3.5 G ED VR Micro (52ø)
10-24/3.5-4.5 G AF-S (77ø)
12-24/4 G AF-S (77ø)
16-85/3.5-5.6 G AF-S VR (67ø)
17-55/2.8 G AF-S (77ø)
18-55/3.5-5.6 G AF-S II (52ø)
18-55/3.5-5.6 G AF-S VR (52ø) **$199.95**
18-105/3.5-5.6 G AF-S VR (67ø) **$399.95**
18-200/3.5-5.6 G AF-S VR II (72ø) **$849.95**
55-200/4-5.6 G AF-S (67ø)
55-200/4-5.6 G AF-S VR (67ø) **$249.95**
55-300/4.5-5.6 G AF-S VR (58ø) **$399.95**

D-Type AF Lenses

14/2.8 D ED
16/2.8 D (39ø) with Hood
20/2.8 D (62ø)
24/2.8 D (52ø)
24/1.4 G AF-S ED (77ø)
24/3.5 D ED PC-E (77ø)
28/2.8 D (52ø)
35/2.0 D (52ø)
35/1.4 G AF-S ED (67ø)
45/2.8 D ED PC-E Micro (77ø)
50/1.8 D (52ø)
50/1.8 G AF-S (58ø) **$219.95**
50/1.4 D (52ø)
50/1.4 G AF-S (58ø)
60/2.8 D Micro (62ø) (1:1)
60/2.8 G AF-S ED Micro (62ø)
85/1.8 D (62ø) with Hood
85/1.4 D IF (77ø)
85/1.4 G AF-S (77ø)
85/2.8 PC-E Micro (77ø)
105/2.8 G AF-S ED-IF VR Micro (62ø)
105/2.0 DC D with Hood (72ø)
180/2.8 D ED-IF (72ø)
200/4 D ED-IF Micro w/Case (62ø)
200/2 G AF-S ED-IF VR (52ø)

D-Type AF Lenses

300/4.0 D AF-S ED-IF (77ø)
300/2.8 G AF-S VR (52ø-R)
400/2.8 G AF-S VR ED (52ø)
500/4.0 G AF-S VR ED (52ø)
600/4.0 G AF-S VR ED (52ø)
14-24/2.8 G AF-S ED-IF **$1,999.95**
16-35/4.0 G AF-S ED VR (77ø)
17-35/2.8 D AF-S ED-IF (77ø)
24-70/2.8 G AF-S ED-IF (77ø) **$1,889.95**
24-85/2.8-4.0 D IF (72ø)
24-120/4.0 G AF-S ED VR (77ø) **$1,299.95**
28-300/3.5-5.6 G AF-S ED VR (77ø)
70-200/2.8 G AF-S ED-IF VR II (77ø) **$2,399.95**
70-300/4.0-5.6 G (62ø)
70-300/4.5-5.6 G-AFS VR (67ø) **$589.95**
80-200/2.8 D with Collar (77ø)
80-400/4.5-5.6 D VR (77ø)
200-400/4 G AF-S ED VR II (52ø)
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TC-17E II (1.7x) Teleconverter
TC-20E III (2x) Teleconverter

Nikon 24-70mm f/2.8 G AF-S ED-IF Zoom Lens

- Optimized for edge-to-edge sharpness on both the Nikon FX (full-frame) and DX-format image sensors
- Rugged construction, dust and moisture resistance
- Minimum focus 1.2'
- 77mm filter diameter
- Weight 32 oz

Nikon 18-200/3.5-5.6 DX G VR II AF-S ED-IF Digital Lens

- *Designed exclusively for Digital SLRs*
- 35mm equiv. 27-300mm
- **VR II** Vibration Reduction
- SWM (Silent Wave Motor)
- 3.5-22 f/Stop Range
- Focus 1.6' to Infinity
- 72mm filter diameter
- Weight 19.8 oz

Nikon 70-200/2.8 G AF-S ED-IF VR II Telephoto-Zoom Lens

- **VR II** Vibration Reduction
- 3.5-22 f/Stop Range
- SWM (Silent Wave Motor)
- Close Focusing to 4.6'
- 77mm filter diameter
- Weight 3.2 lbs

Nikon SB-900 Speedlight i-TTL Shoe Mount Flash

- Guide No. 131'
- Recycling Time 4.5 Secs
- Bounce & Swivel Head
- Zoom Head (17-200mm)
- Stroboscopic Effect
- AF-Assist Illuminator
- Safety lock on flash shoe
- Weight 14.6 oz

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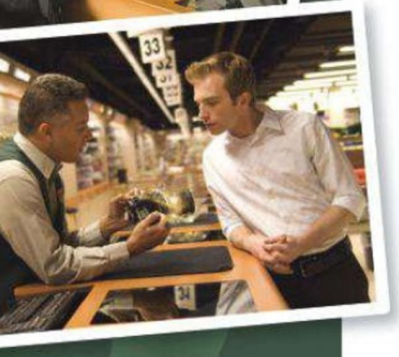

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C = Canon N = Nikon P = Pentax SM = Sony/Minolta *** Price After Rebate* *Rebates Expire 12-31-11*

		SKU #	Available for	Rebate	Price
Di-II	60/2.0 LD IF Macro (55ø)	#TA602DI*	C, N, SM	$100	$424.00**
Di	90/2.8 Macro (55ø)	#TA9028M*	C, N, P, SM	$50	$449.00**
Di	180/3.5 LD IF Macro (72ø)	#TA18035*	C, N, SM	$50	$689.00**
Di-II	10-24/3.5-4.5 (77ø)	#TA102435*	C, N, P, SM	$50	$449.00**
Di-II	17-50/2.8 XR LD IF Aspherical (67ø)	#TA175028*	C, N, P, SM	$25	$474.00**
Di-II	17-50/2.8 XR VC LD IF Asph. (67ø)	#TA175028*Q	C, N	$50	$599.00**
Di-II	18-200/3.5-6.3 (62ø)	#TA1820035*	C, N, P, SM	$60	$239.00**
Di-II	18-270/3.5-6.3 VC (72ø)	#TA1827035*	N	—	CALL
Di-II	18-270/3.5-6.3 VC PZD (62ø)	#TA18270*	C, N	$100	$549.00**
Di	28-75/2.8 XR (67ø)	#TA287528*	C, N, P, SM	$25	$474.00**
Di	28-300/3.5-6.3 XR LD (62ø)	#TA2830035XD*	C, N, P, SM	—	$419.00
Di	28-300/3.5-6.3 XR VC (62ø)	#TA2830035*	C, N	—	$629.00
Di	70-200/2.8 LD IF Macro (77ø)	#TA7020028M*	C, N, P, SM	—	$769.00
Di	70-300/4-5.6 VC USD	#TA70300*	C, N, SM	$50	$399.00**
Di	75-300/4.0-5.6 LD (62ø)	#TA753004*	C, N, SM	—	$164.00
Di	200-500/5-6.3 LD IF (86Cø)	#TA2005005*	C, N, SM	—	$949.00
	1.4x SP AF Pro Teleconverter	#TA14XP*	C, N	—	$224.00
	2x SP AF Pro Teleconverter	#TA2XP*	C, N	—	$254.00

Tokina AF LENSES

DX – for Digital SLRs Only **FX** – Designed for full frame DSLRs

** Also Available for Sony Alpha DSLR

		Canon EOS	Nikon AF	Price
DX	35/2.8 Pro Macro (55ø)	#T03528PDXC	#T03528PDXN	$299.00
FX	100/2.8 Pro D Macro (52ø)	#T010028PCAF	#T010028PNAF	$449.00
DX	10-17/3.5-4.5 ATX Fisheye	#T0101735CAF	#T0101735NAF	$599.95
DX	11-16/2.8 Pro (77ø) **	#T0111628PDXC	#T0111628PDXN	$659.95
DX	12-24/4.0 Pro II (77ø)	#T012244DXC	#T012244DXN	$549.95
FX	16-28/2.8 Pro (77ø)	#T0162828FXC	#T0162828FXN	$849.00

FLASHES

Metz

28 AF-3 TTL Digital Shoe Mount Flash	$108.00
28 CS-2 Digital Slave Shoe Mount Flash	$126.00
50 AF-1 TTL Shoe Mount Flash f/Canon or Nikon	$230.00
54 MZ-4 TTL Standard Shoe Mount Flash	$364.99
58 AF-2 TTL Shoe Mount Flash f/Canon or Nikon	$400.00
45 CL-4 TTL Handle Mount Flash Kit**	$699.95
76 MZ-5 TTL Handle Mount Flash**	$1,024.99

** with battery and charger

QUANTUM

Q-flash TRIO	$875.00
Q-flash T5D-R	$706.00
Q-flash T5D-R with Turbo SC Battery & Charger	$1,172.00
Q-flash T5D-R with Turbo 3 Battery Kit	$1,303.50

Batteries

Battery 1 Compact			$118.00
Battery 1	$224.00	Turbo SC	$466.00
Turbo Blade	$466.00	Turbo 3	$624.00

SUNPAK

E-Flash Flat Panel Kit #SUFP38	$58.95
018ST fits most Digital Cameras	$29.95
RD-2000 Shoe Mount Flash	$64.95
PZ-4000 AF TTL Shoe Mount f/Canon, Nikon	$69.95
PZ-40x II AF TTL Shoe Mount	$69.95
PZ-42x AF TTL Shoe Mount for Canon, Nikon	$139.99
622 Super Pro TTL Handle Mount Flash	$196.95
622 Super Kit with Wide Angle Head	$199.95

Vivitar

285HV Professional Auto	$89.95
Pearstone SB-4 AC Adapter for 285HV #PESB4	$14.95

SIGMA AF LENSES & FLASHES

DC – for Digital SLRs Only • **DG** – Optimized for Digital SLRs

H – HSM Model with Canon, Nikon, Sigma
R – Rear Slip-in Gelatin Filter Slot

		Canon	Nikon	Pentax	Sigma	Sony/Minolta	Price
DC	4.5mm f/2.8 EX Circular Fisheye HSM R	#SI4528EXDCC	#SI4528EXDCN	#SI4528EXDCP	#SI4528EXDCSI	#SI4528EXDSO	$899.00
DG	8/3.5 EX Circular Fish-Eye R	#SI835CA	#SI835NA	—	#SI835SI	—	$899.00
DC	10mm f/2.8 EX Fisheye HSM R	#SI1028EXDCC	#SI1028EXDCN	#SI1028EXDCP	#SI1028EXDCSI	#SI1028EXDCSO	$649.00
DG	15/2.8 EX Diagonal Fish-Eye R	#SI1528DGCAF	#SI1528DGNAF	#SI1528DGPAF	#SI1528DGSA	#SI1528DGMAF	$609.00
DG	20/1.8 EX DF RF Aspherical (82ø)	#SI2018CAF	#SI2018NAF	#SI2018PAF	#SI2018SA	#SI2018MAF	$629.00
DG	24/1.8 EX DF Aspherical Macro (77ø)	#SI2418MCAF	#SI2418MNAF	#SI2418MPAF	#SI2418MSA	#SI2418MMAF	$549.00
DG	28/1.8 EX DF Aspherical Macro (77ø)	#SI2818MCAF	#SI2818MNAF	#SI2818MPAF	#SI2818MSA	#SI2818MMAF	$449.00
DC	30mm f/1.4 EX HSM (62ø)	#SI3014DCCAF	#SI3014DCNAF	#SI3014DCPAF	#SI3014DCSA	#SI3014DCMAF	$489.00
DG	50mm f/1.4 EX (77ø) H	#SI5014C	#SI5014N	#SI5014PE	#SI5014SI	#SI5014SOM	$499.00
DG	50/2.8 EX Macro (55ø)	#SI5028MDGCAF	#SI5028MDGNAF	#SI5028MDGPAF	#SI5028MDGSA	#SI5028MDGMAF	$369.00
DG	70/2.8 EX Macro (62ø)	#SI7028MDGCA	#SI7028MDGNA	#SI7028MDGPA	#SI7028MDGSA	#SI7028MDGSAQ	$499.00
DG	85/1.4 EX HSM (77ø)	#SI8514C	#SI8514N	#SI8514P	#SI8514SI	#SI8514S	$969.00
DG	105/2.8 EX Macro OS (62ø)	#SI10528MDGCE	#SI10528MDGNQ	—	—	#SI10528MDGSM	$969.00
DG	150/2.8 EX APO Macro OS HSM (72ø)	#SI15028AMOC	#SI15028AMON	#SI15028AMOP	#SI15028AMOSI	#SI15028AMOS	$1,099.00
DG	300/2.8 APO EX HSM	#SI30028DGCAF	#SI30028DGNAF	#SI30028DGPAF	#SI30028DGSA	#SI30028DGMAF	$3,399.00
DC	8-16/4.5-5.6 HSM	#SI8164556CA	#SI8164556NI	#SI8164556PE	—	#SI8164556SO	$699.00
DC	10-20/4-5.6 EX HSM (77ø)	#SI102045DCAF	#SI102045DNAF	#SI102045DPAF	#SI102045DSA	#SI102045DMAF	$479.00
DC	10-20/3.5 EX HSM (82ø)	#SI102035C	#SI102035SN	#SI102035P	#SI102035SG	#SI102035S	$649.00
DG	12-24/4.5-5.6 EX Aspherical HSM	#SI122445C	#SI122445N	#SI122445P	#SI122445SI	#SI122445S	$949.00
DC	17-50/2.8 EX OS (77ø)	#SI175028CA	#SI175028NI	#SI175028PE	—	#SI175028SO	$669.00
DC	17-70/2.8-4.0 OS Macro HSM (72ø)	#SI177028DCC	#SI177028DCNQ	#SI177028DCP	#SI177028DCSI	#SI177028DCSM	$469.00
DC	18-50/2.8-4.5 OS (67ø)	#SI185028D0C	#SI185028D0N	#SI185028D0P	#SI185028D0SG	#SI185028D0S	$199.00
DC	18-125/3.8-5.6 OS (Optical Stabilizer) (67ø) H	#SI18125350SC	#SI18125350SN	#SI18125350SP	#SI18125350SI	#SI18125350SS	$339.00
DC	18-200/3.5-6.3 IF Aspherical (62ø)	#SI1820035CAF	#SI182003563N	#SI1820035PAF	#SI1820035SA	#SI1820035MAF	$279.00
DC	18-200/3.5-6.3 OS (Optical Stabilizer) (72ø)	#SI1820035C	#SI1820035N	—	#SI1820035S	—	$399.00
DC	18-250/3.5-6.3 OS HSM (72ø)	#SI1825035C	#SI1825035N	#SI1825035CP	#SI1825035S	#SI1825035CSN	$479.00
DG	24-70/2.8 EX IF HSM (82ø)	#SI247028C	#SI247028NF	#SI247028PS	#SI247028S	#SI247028SM	$899.00
DC	50-200/4-5.6 OS HSM (55ø)	#SI5020045DOC	#SI5020045DON	#SI5020045DOP	#SI5020045DSG	#SI5020045DOS	$159.00
DG	50-500/4.5-6.3 APO OS HSM (95ø)	#SI505004563C	#SI505004563N	#SI505004563P	#SI505004563SA	#SI505004563SM	$1,659.00
DG	70-200/2.8 EX Macro II HSM (77ø)	#SI7020028C	#SI7020028N	#SI7020028PSA	#SI7020028S	#SI7020028SO	$949.00
DG	70-200/2.8 EX OS HSM (77ø)	#SI7020028CQ	#SI7020028NI	#SI7020028P	—	#SI7020028SOQ	$1,399.00
DG	70-300/4-5.6 DL Macro Super II (58ø)	#SI703004SCAF	#SI703004S6N	#SI703004PAF	#SI703004SA	#SI703004MAF	$169.00
DG	70-300/4-5.6 APO Macro Super II (58ø)	#SI703004DGCA	#SI703004S6AN	#SI703004DGPA	#SI703004DGSA	#SI703004DGMA	$239.00
DG	70-300/4-5.6 OS (62ø)	#SI7030045C	#SI7030045N	#SI7030045P	#SI7030045S	#SI7030045SM	$359.00
DG	120-300/2.8 EX APO OS HSM (105ø)	#SI12030028C	#SI12030028N	#SI12030028P	#SSI12030028SA	#SI12030028S	$3,199.00
DG	150-500/5-6.3 APO OS HSM	#SI150500C	#SI150500N	#SI150500P	#SI150500S	#SI150500M	$1,069.00
DG	1.4x EX APO Tele-Converter	#SI1.4XDGCAF	#SI1.4XDGNAF	#SI1.4XDGPAF	#SI1.4XDGSA	#SI1.4XDGMAF	$249.00
DG	2x EX APO Tele-Converter	#SI2XDGCAF	#SI2XDGNAF	#SI2XDGPAF	#SI2XDGSA	#SI2XDGMAF	$299.00
DG	EF-610 ST	#SIEF610STC	#SIEF610STN	#SIEF610STP	#SIEF610STSI	#SIEF610STS	$165.00
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- Focus 1.5' to Infinity
- Mag. ratio of 1:3.9
- 72mm filter diameter
- Weight 21.6 oz

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17-50mm f/2.8 EX DC OS Digital Lens

- *Designed exclusively for Digital SLRs*
- Minimum focus: 11"
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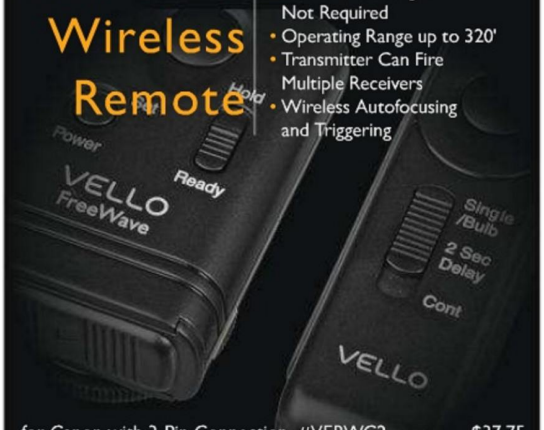

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UV, Skylight (1B) Super HMC	$35.85	$44.85	$55.35	$65.85	$74.85
Linear Polarizer	$32.85	$35.85	$38.85	$44.85	$55.35
Circular Polarizer	$38.85	$43.35	$62.85	$74.85	$88.35
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"Moose" Warm Circular Polarizer	$55.35	$64.35	$92.85	$115.35	$137.85
K2 Yel, X0 Yel/Grn, Grn X1, Or G, Red 25A HMC	$25.35	$28.35	$41.85	$49.35	$61.35
Close Up Set (+1, +2, +4)	$50.85	$64.35	$77.85	$95.85	$104.85
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Star 6, Star 8	$25.35	$28.35	$43.25	$49.35	$58.35

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UV Multi-Coated	$38.50	$38.50	$52.00	$64.50	$88.00
Circular Polarizer	$63.00	$65.00	$81.50	$93.50	$105.00
Circular Polarizer Multi-Coated	$90.00	$93.50	$117.00	$134.50	$160.50
81A, B, KR3, 6, 12, 15	$26.50	$26.50	$36.00	$42.00	$49.00
KB1.5, 3, 6, 12, 15, 20	$28.50	$28.50	$35.00	$40.50	$47.50
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ND .9, 1.8, 3.0, 4.0, 6.0	$42.00	$42.00	$67.50	$84.00	$94.50
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ND 1.2	$64.95	$74.95	$99.95	$109.95	$129.95
ND 0.6	$64.95	$74.95	$99.95	$109.95	$129.95
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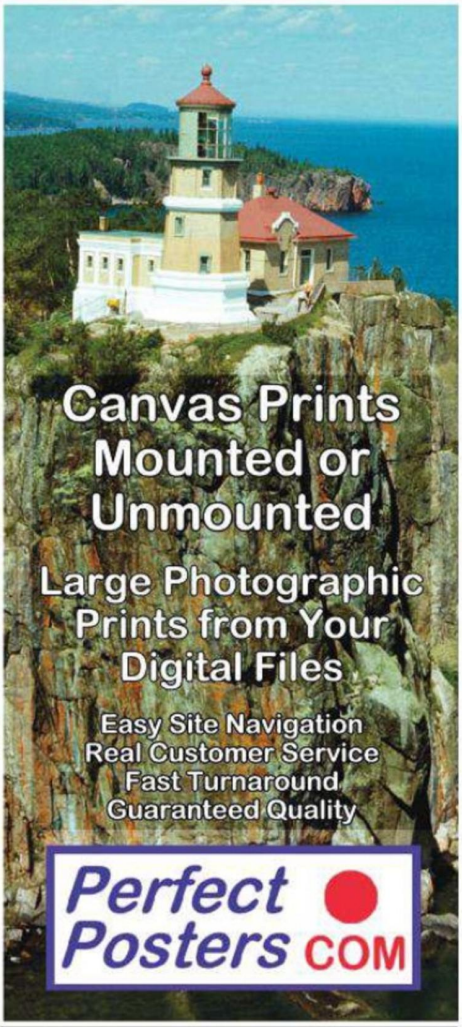

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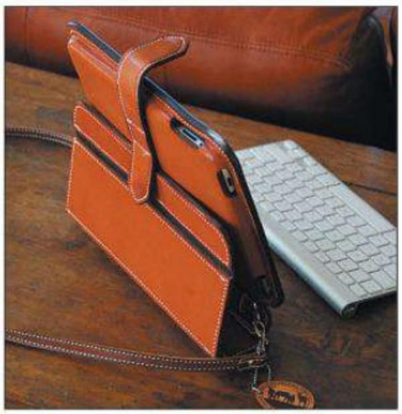

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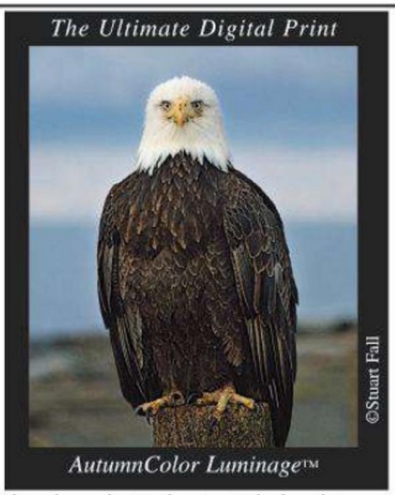

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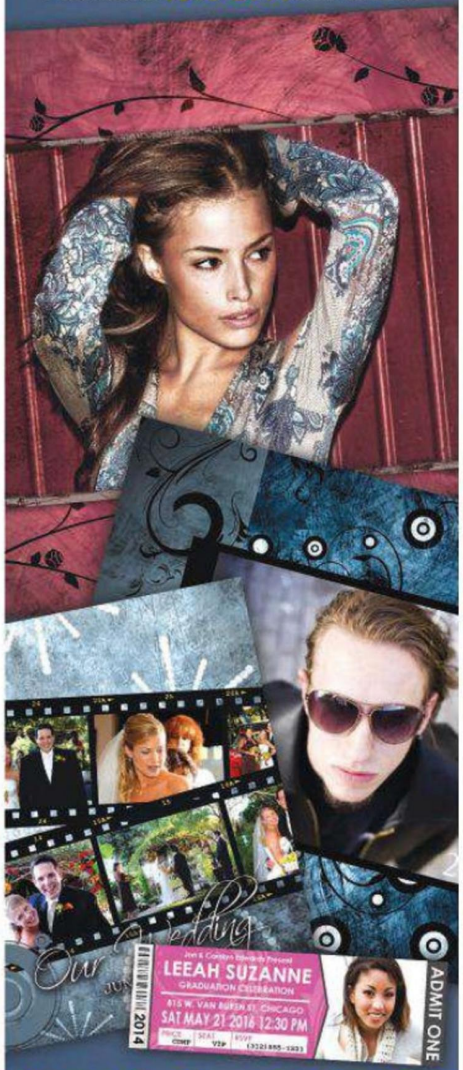

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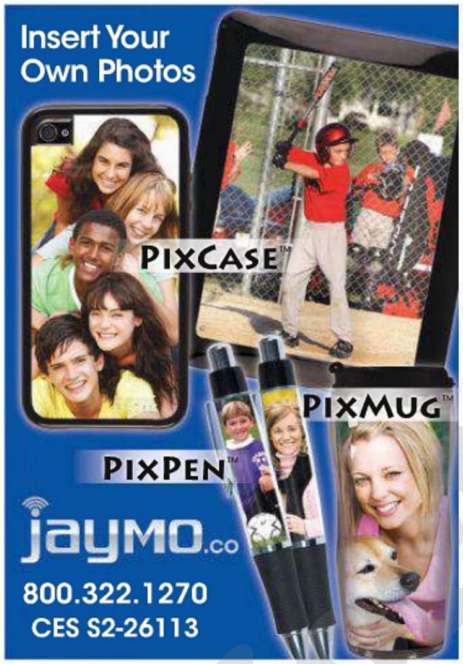

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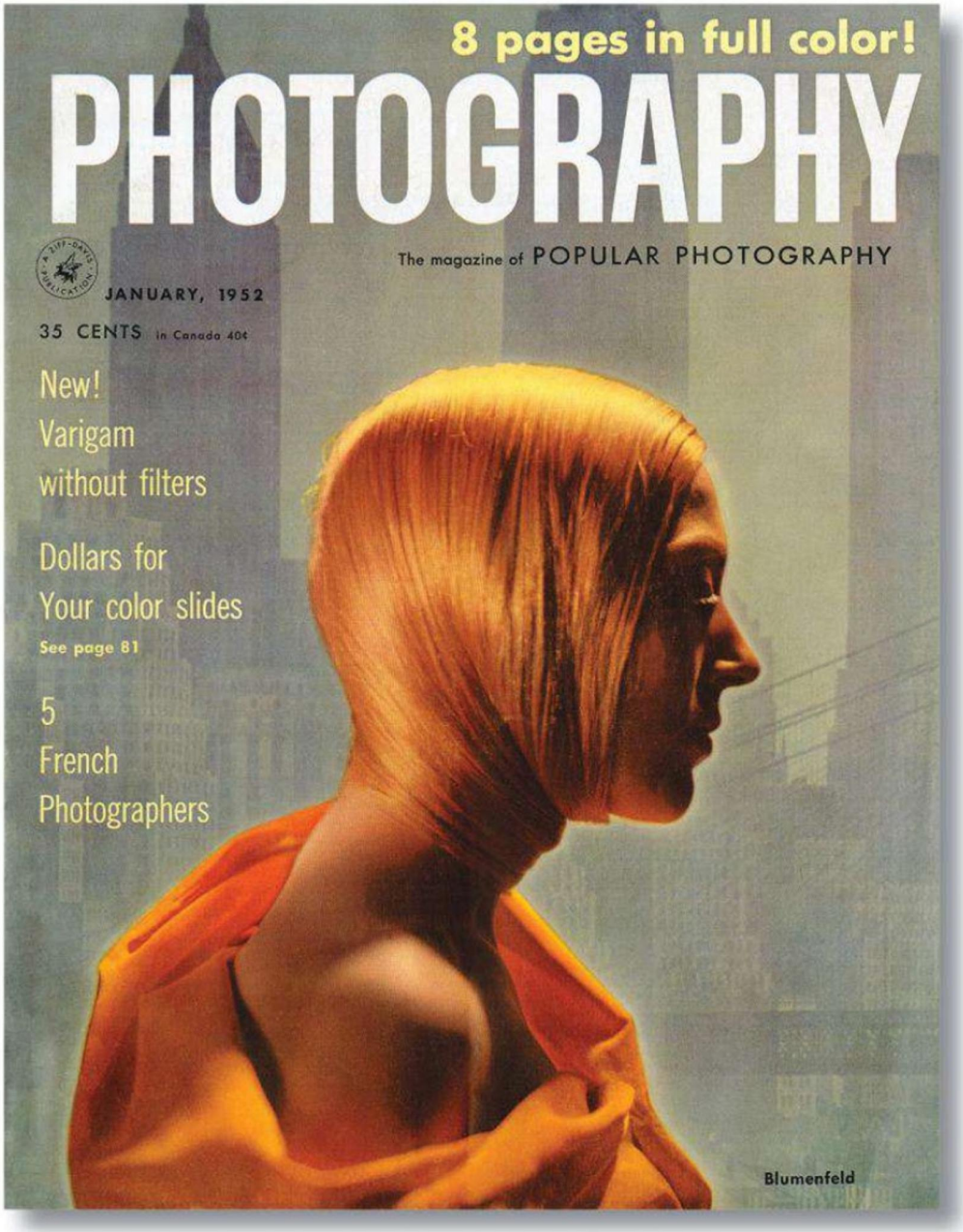


▲ Composite Image

One of the most creative fashion photographers of his time, Erwin Blumenfeld often used a touch of surrealism. For our cover, he combined two 8x10 Ektachrome Type B color transparencies. First he photographed Exilona Sarve against a plain white backdrop. Then he enlarged a Kodachrome of the New York skyline, masked it with the model's silhouette, and printed it on Ektachrome. Finally, he bound both together to create this evocative image.

60 YEARS AGO

Pro shooter Harriet Arnold gave a "blueprint for better Christmas pictures."

▼ Searching for Sales

Graflex, one of America's most famous press camera brands, found the increasing competition from reflex and 35mm cameras a threat to its market position. Its solution was to add the Ciro line of low- and mid-priced cameras.

This Ciroflex twin-lens model enjoyed a good reputation as a less-costly alternative to Rollei cameras. Unfortunately, though, Graflex succumbed to its competitors and eventually gave up the ghost.

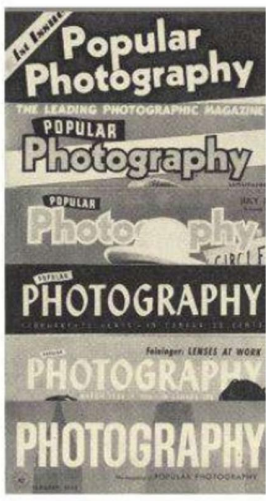
▲ Ooh-La-La

The ability of French photographers to capture "the human condition" was exemplified beautifully in this famous photo by Robert Doisneau, a native Parisian and one of the most gifted of his generation of cameramen. The picture was one of a portfolio of five French photographers exhibited by Edward Steichen at the Museum of Modern Art. Doisneau used a Rolleiflex for this 1/50-sec exposure, at f/4.5, through an art dealer's window.

▼ Our Logo Marches On

As we prepare to celebrate this magazine's 75th anniversary, it is interesting to see the evolution of our logo over the first 15 years of publishing, from the first one in May 1937 to the sixth version, which made its debut with this issue. Though the word "Popular" dropped from the logo, a tagline proclaiming this "The magazine of POPULAR PHOTOGRAPHY" retained the brand name. By February 1955, the experiment had ended and "Popular" returned to the logo proper.

—Harold Martin



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CONTINUED FROM PAGE 86

EVF. (The J1 lacks a viewfinder.)

The V1's matte-black finish feels nice in the hands. And, while we appreciate Nikon's attempt to provide some sort of grip, the rudimentary ridge below the shiny 1 on the front of the camera didn't really help.

Meanwhile, the controls are just as lackluster as those on the J1. We like that Nikon uses the four directions on the

CONTINUES ON PAGE 108

SPECIFICATIONS

IMAGING: 10.1MP effective CX format CMOS sensor captures images at 3872x2592 pixels each, with 12 bits/color in RAW capture.

STORAGE: SD, SDHC, or SDXC stores JPEG, NEF RAW, RAW + JPEG, or MOV files.

VIDEO: Up to 1920x1080i60 or 1280x720p60 H.264/MPEG-4; built-in stereo mic; contrast/phase AF with continuous AF in video mode.

BURST RATE: Full-sized JPEGs up to 58 frame at 5 fps; RAW up to 44 frames at 5 fps.

AF SYSTEM: TTL hybrid contrast/phase detection with autoselect 41-area AF, or single-point selectable AF from 135 areas.

SHUTTER SPEEDS: Mechanical: 1/4000 to 30 sec, plus B. Electronic: 1/16,000 to 30 sec, plus B (1/3-EV increments).

METERING: TTL metering with unspecified-area evaluative, centerweighted, and spot (2mm circle centered on focus area).

ISO RANGE: ISO 100–3200, expandable to ISO 6400 (in 1-EV increments).

FLASH: No built-in pop-up; proprietary accessory shoe; flash sync to 1/250 sec.

VIEWFINDER: Fixed eye-level LCD with 1,440,000-dot resolution

MONITOR: 3-inch TFT LCD with 921,000-dot resolution.

OUTPUT: Hi-Speed USB 2.0; mini-HDMI video.

BATTERY: Rechargeable EN-EL15 Li-ion, CIPA rating 350 shots.

SIZE/WEIGHT: 4.4x3.0x1.7 in., 0.8 lb with an SD card and battery.

STREET PRICE: $900 with 10–30mm f/3.5–5.6 lens; $1,150 with 10–30mm and 30–110mm f/3.8-5.6 lens.

INFO: www.nikonusa.com

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The Runners-Up

A TRIO OF CONTENDERS WITH SUPER SPECS

CANON T3i

Canon has packed just about every feature of midlevel EOS cameras into this Rebel: 18MP sensor, 1920x1080p60 video, wireless control of TTL flash, tilt/swivel LCD screen, and so on. But while the T3i represents a certain refinement of the Rebel line, it doesn't radically redefine the photography experience, as does the Sony NEX- 7.

FUJIFILM X100

The first fixed-lens compact camera to get serious consideration for Camera of the Year honors, the X100 wowed us with its built-in, switchable EVF/optical finder, great imaging, elegant aesthetics, and easy-to-use retro controls. But in the end, not being able to change the lens took it out of contention.

SONY A77

When all is said and done, Sony's own Alpha 77 was probably the top competition for this award. This speed-shooting fixed-mirror DSLR builds mightily on the groundbreaking A55 with that super OLED finder, Excellent-level imaging, and heavy-duty construction. But the NEX-7 was 2011's real game-changer.

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mount an optional adapter that provides a sync terminal. Photographers and video fans alike will appreciate the tilting LCD screen, which is so slim when folded that at first we thought it was a fixed screen.

As this is Pop Photo, you know we have some gripes. While the autofocus is quite fast for a contrast-detection system, it's still nowhere near the *gotcha!* speed of the Alpha models' phase detection. During very fast panning, the EVF can get a little jittery. And burst shooting with continuous AF and AE is a wimpy 3 fps. You can get 10 fps in Speed Priority mode, but you lose continuous AF and AE, and the camera will run out of gas at 17 JPEGs. In fairness, though, the NEX-7 is more suited to urban, candid, portrait, and travel photography than sports shooting.

Lens selection is also a concern, especially for enthusiasts. Sony needs to add more to the NEX lens line, which now numbers seven. There is a big hole in the ultrawide range, 10mm to 14mm, focal lengths that scale up to 15mm to 21mm in full-frame equivalents. We hope that Sony will make some small primes in this range, as they would be better suited to the NEX-7 body—you have to admit big zooms look a little ridiculous on this petite camera.

But to use this model for any length of time is to adore it. The NEX-7 is pretty much exactly the ideal we envisioned when consumer photography began going digital: a compact camera with interchangeable lenses, viewing by way of direct feed from the sensor to a built-in, high-resolution finder, producing top-notch image quality. It's here.

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menu navigation pad for direct access to controls. But when you try to access drive modes from the control pad, you get only the self-timer menu. Want continuous drive for burst shooting? You will have to search the menus for this option. In fact, you have to go to the menu for far too many of the V1's controls.

Even changing shooting mode—program, aperture-priority, shutter-priority, manual—requires the menu, because Nikon didn't use all of the possible spots on the camera's wheel. Instead, the wheel guides you to a number of gimmicky image modes, such as Motion Snapshot and Smart Photo Selector, instead of the standard shooting modes (e.g., Aperture and Shutter Priority) that we'd prefer to find there.

The Bottom Line

With the 1 system cameras, Nikon seems to have lost focus on what has made it such a great camera manufacturer. The company that always put an emphasis on producing extremely sharp lenses and cutting-edge, rugged camera bodies has decided to target a lower common denominator with its ILCs. Sadly, outside of flashy ideas like Motion Snapshot—a cute trick that will likely get old fairly quickly—the V1 doesn't offer much else.

Given its convoluted control system, Nikon DSLR shooters would have an easier time shooting with Panasonic's G3 than they would with the V1. And they can put the money they save toward one of the many lenses available for the Micro Four Thirds format that have yet to come around for the new Nikon 1. —*Philip Ryan*

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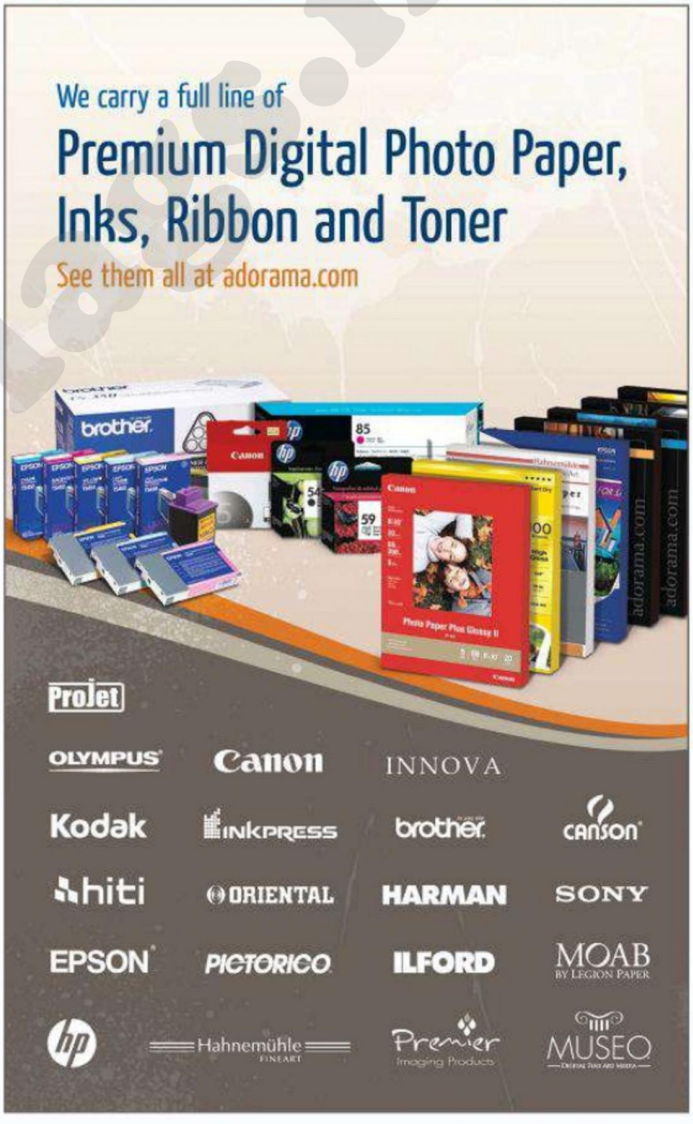

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CONTINUED FROM PAGE 73

areas of the scene, consider rendering your subject in silhouette instead.

Indirect Light

Light that reflects off of an object (like canyon walls or even clouds) or that is diffused through something translucent is called indirect light.

The magical glow found in photos of slot canyons results from bounce light: Direct sunlight strikes the rocks at the top of the canyon, and the rocks act as reflectors, bouncing the light deeper into the interior of the canyon, bathing the lower walls in a warm, reddish light.

Bounce can also occur around sunrise and sunset, when clouds crackle with colorful reds and yellows. If it is intense enough, this color is reflected onto the landscape, burnishing the whole scene with soft, warm tones.

Surfaces of high reflectivity, such as water, ice, snow, and wet rocks, also bounce light. I like to juxtapose reflections of sunlit elements with objects that are in shadow, such as sunlit fall foliage reflected in a shaded brook. This way, I can capture a complementary color scheme of warm tones (sunlit reflections) and cool tones (objects in shadow). When selecting your white balance, remember that a relatively cool setting (typically daylight or cooler) will preserve blue tones in shadow areas, whereas a warmer white balance will eliminate blue tones and reduce the complementary nature of the colors.

Diffused light is most commonly associated with cloudy days, which are often perfect for waterfalls and streams. Other natural elements, such as heavy tree cover in a lush rain forest or jungle environment, can heavily diffuse light. Photographs made in these settings often appear to have a green glow that adds an ethereal mood.

ACADIA NATIONAL PARK, ME
The dawn provides rim lighting for the rocks in rough surf. Plant made the shot with the 5D Mark II and converted 14–24mm f/2.8G ED AF-S Nikkor; multiple exposures around 0.4 sec at f/11, ISO 100.

Because bounce and diffused light are indirect, they are often fairly weak, so you may need long exposures (see sidebar at right). With slot canyons, for instance, exposure times at base ISO settings may be 30 seconds or longer. You can reduce exposure times by increasing your ISO, but don't go so far as to degrade your images with digital noise.

Twilight and Night

While most nature photographers prefer the "magic hours" of sunrise and

Long Exposure Lowdown

FOR LONG exposures, a sturdy tripod and electronic shutter release are absolutely necessary. A shutter release with an interval timer, long exposure timer, and multiple-exposure settings can also prove to be very useful.

As the sky darkens, exposure times can get exponentially longer, and seconds turn into minutes, which may then again turn into hours. Digital cameras don't always handle long exposures well—noise can often build up during long exposures, and battery power doesn't last forever.

Here are some strategies:

- **Avoid working in hot temperatures.** Digital camera sensors generate noise when they heat up during long exposures, and if it's already hot outside, the problem can get considerably worse. Cooler ambient temperatures can reduce or eliminate sensor heat and the resultant noise build-up.
- **Use your camera's long-exposure noise-reduction feature, if it has one.** Accessed through your camera's menu, this helps reduce noise—but will double your exposure times as the camera will take a second dark-frame exposure right after the main exposure.
- **Make sure your battery is fully charged, and bring a spare or two.** Also consider using an external battery pack or vertical grip with an extra battery compartment.
- **Take multiple shorter exposures in quick succession to combine later in software.** Breaking up one long exposure into several shorter ones can dramatically reduce noise and may save battery power. However, you will need to know how to blend multiple exposures together using software such as Adobe Photoshop.

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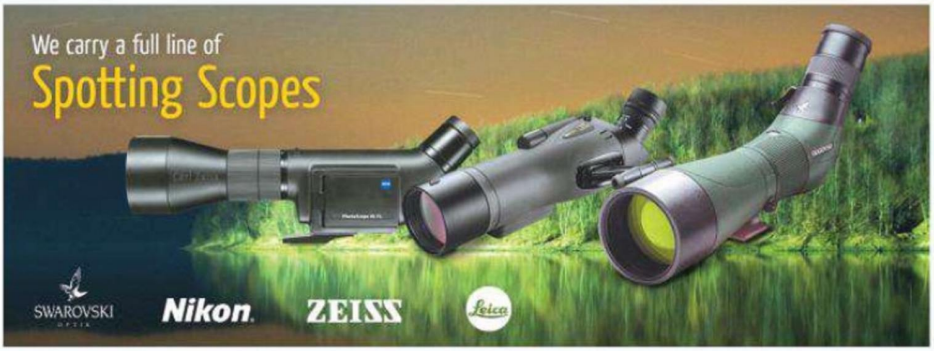

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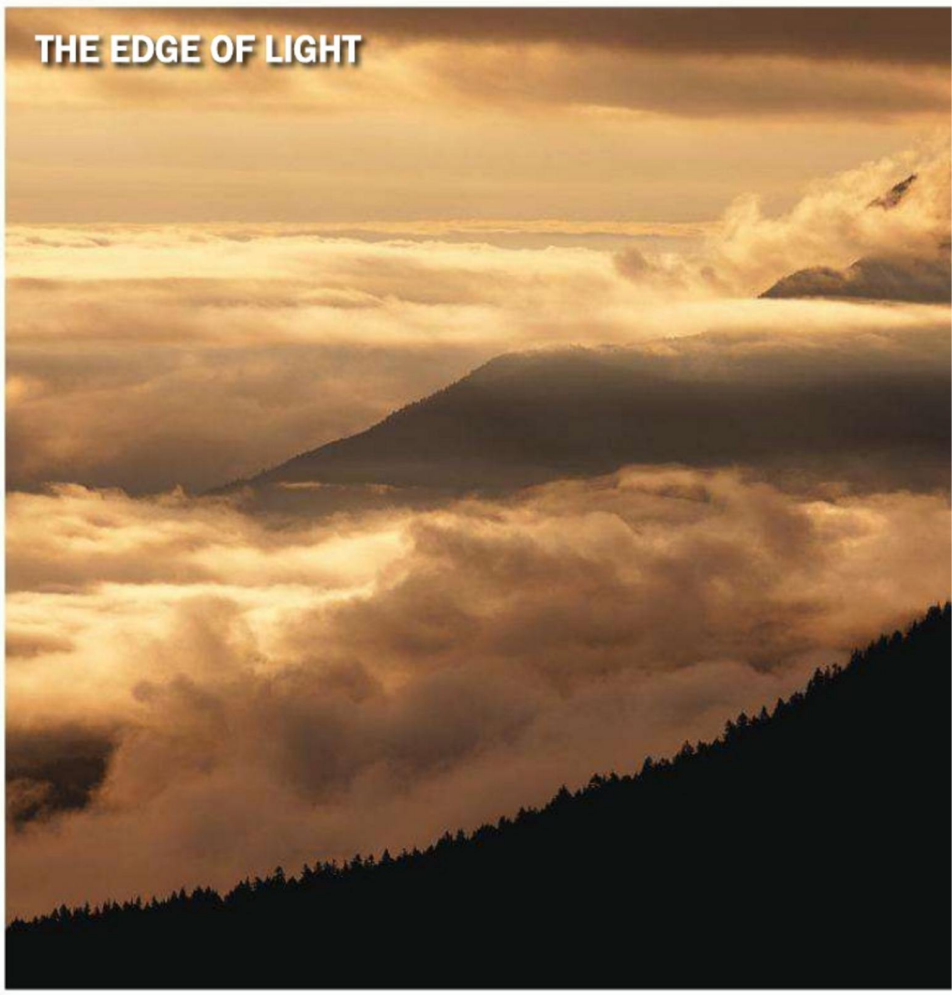


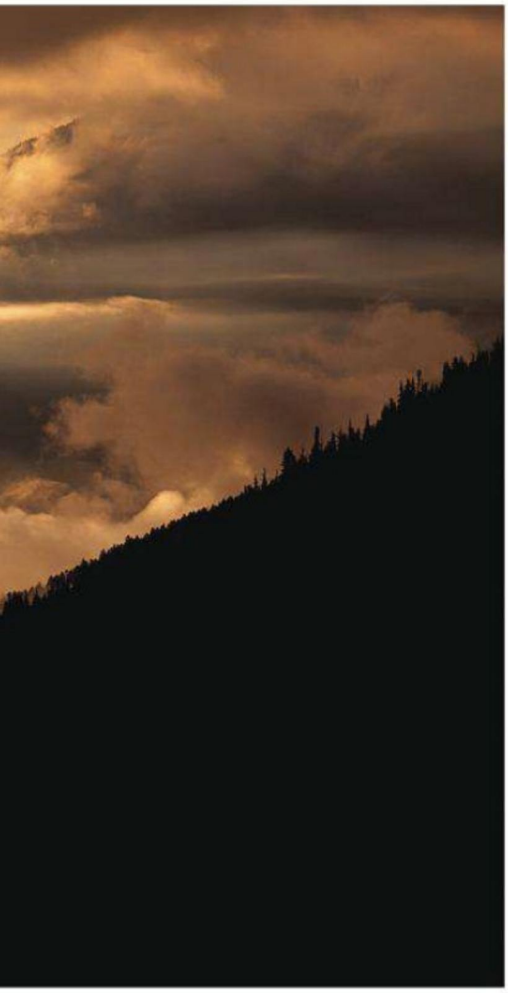
sunset when the light is golden-red, don't overlook the faint gleam of twilight. The gloaming hours can be perfect for rendering scenes in a dreamy, impressionistic manner.

As the sky darkens after a colorful sunset, any residual hues in the sky will illuminate the landscape with a warm, soft glow. But if there isn't much sunset or sunrise color, your subjects will take on a cool color cast. Get creative with white balance to enhance the prevailing warm or cool tones; a daylight setting (or warmer) will enhance a scene lit by a warm glow, whereas a cooler white balance such as tungsten will render an already coolly lit scene as a luxurious blue.

Anything that moves during a long exposure will be rendered as an abstract blur, so consider the direction and duration of any motion blur that might occur. If the wind is blowing your main subject—say, a group of trees—long exposure blur might not work for your photo, whereas clouds streaking across the sky against a static rocky landscape might be very effective. Streaking clouds moving towards you, rather than at an angle, appear to radiate from the center into the corners of the image, producing a dynamic composition. Experiment with exposure time to get the look you want, adjusting ISO as necessary in order to achieve longer or shorter exposures.

Weather Edges

Some of the most dramatic "edge" conditions occur as inclement weather is approaching or breaking up. There's nothing quite like the sun finding a gap in the clouds



HURRICANE RIDGE, OLYMPIC NATIONAL PARK, WA
A position above the fog let Plant juxtapose sunrise with the ridge. A 5D Mark II, 70–200mm f/2.8L Canon lens were used; 1/250 sec at f/11, ISO 100.

low on the horizon, sending forth streaking rays of golden light or firing the clouds with brilliant red. Such phenomena don't happen often, so you need patience—and as much time in the field as possible. Pay close attention to local weather forecasts and satellite maps to time your fieldwork for these conditions.

Ian Plant is a full-time professional nature photographer, writer, and adventurer. His work has appeared in numerous books and calendars, and he is also the author of a number of eBooks and video tutorials. See more of his work at www.ianplant.com.

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Light Moves

YULIA GORBACHENKO

Yulia Gorbachenko adds sizzle

I BEGAN the series "Illuminant Body" for my master's thesis at the School of Visual Arts in New York. I've always been inspired by color and using different-colored light sources on a subject against a dark background. I wanted to use that to explore extravagance and sensuality in fashion photography. I added light painting to the series to add movement—it brings a perception of color in motion.

I'd been contacting various modeling agencies and worked with a stylist to find jewelry for each shoot. I set up two continuous light sources: on the left, with a yellow gel, and on the right, with cyan. In the front, I had a softbox with the flash set to front-curtain sync, and the camera set to expose for 0.8 seconds. When the flash pops, the subject is frozen—I use the remaining exposure to move the camera slightly up and down, painting in the sides with light.

On some shoots the model wouldn't quite fit the mood, or the lighting setup wouldn't quite work. I could tell within 10 seconds of shooting that this model knew how to move, and I was able to make the colors move around her.

—As told to Lori Fredrickson

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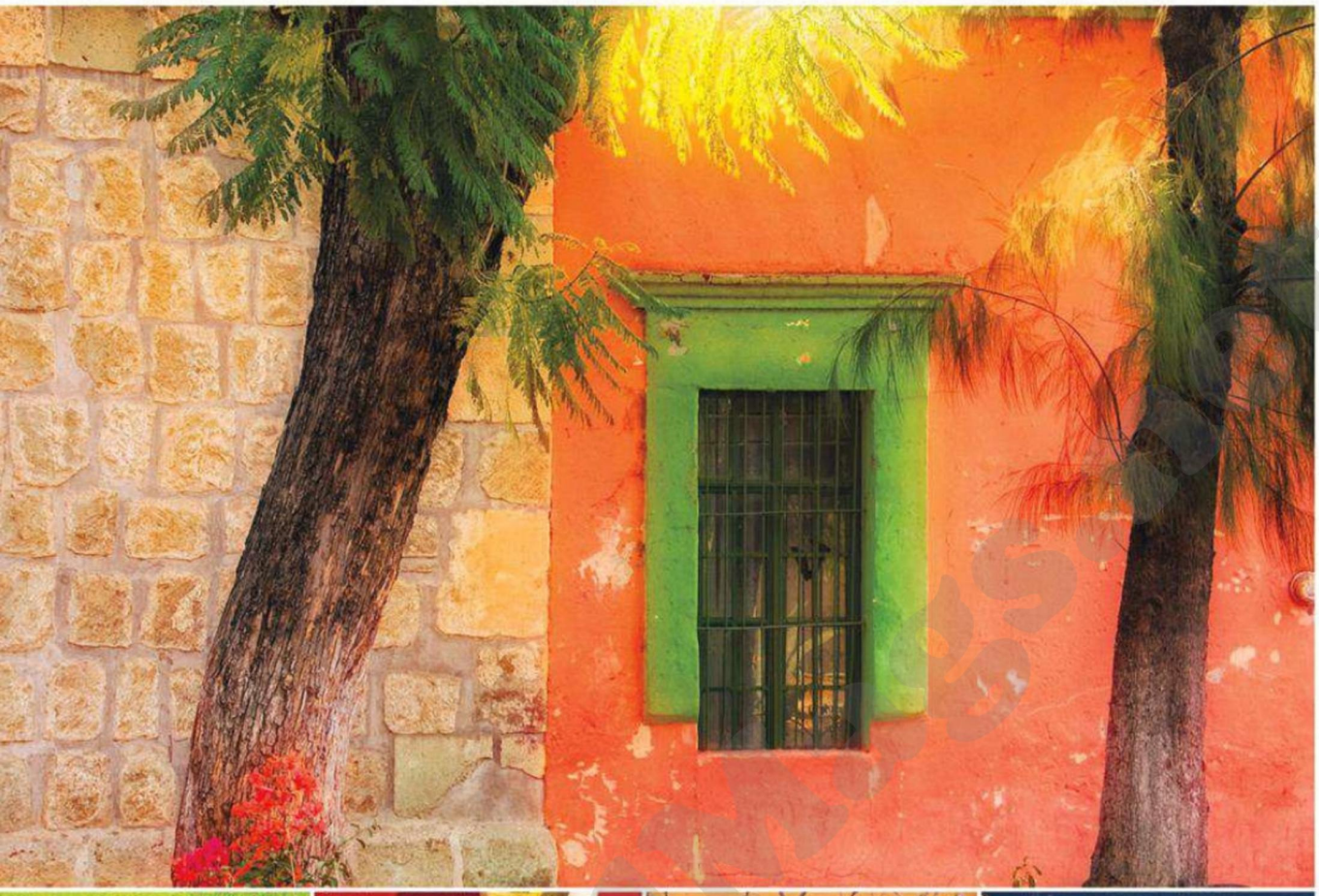

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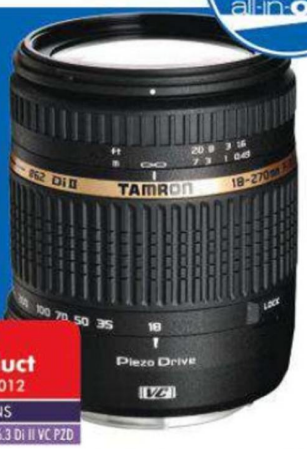

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